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## Original Articles

### A SURVEY OF THE ENDEMIC AND EPIDEMIC BOWEL DISTURBANCES PREVAILING IN ESCANABA\*

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As a representative of the profession of the city of Escanaba, I feel honored at the privilege of addressing you on a subject, that to my confreres, as well as myself, has been a most interesting study.

Without warning, during October, November and December, of 1903, and continuing during the early months of 1904, Escanaba was beset with an epidemic so general, with a symptomatology centering itself in the alimentary tract, so intense, with a fatality so high, that the rank and file of the profession, as guardians of the health interests of many happy homes, must have viewed the then impending crisis with fear and trembling. Not that there was anything mystical or unfathomable in the situation, for sanitary science has largely eliminated conjecture and mysticism from the pale of some few definite enteric troubles, by clearly enunciating the causal factors in the etiology of bowel troubles. But rather because of

a realization by every conscientious, fair-minded, intelligent member of our profession, that similar epidemics in other communities have been the mile-stone of a sanitary evolution, that therefore, before their own eyes was being openly enacted a tragedy, that innocent lives were being lost to the community, and loved ones needlessly sacrificed. And this was due to conditions which the medical profession alone could pass authoritative judgment upon, and, in their quasi-public capacity, could perhaps have prevented by instilling into the minds of their clientele such knowledge of sanitary science as the situation in Escanaba demanded.

My remarks will be based on an investigation conducted since the epidemic described. I shall develop the fact that specific bowel troubles have for years past been present in our municipality, claiming a majority death-rate for years; that this slaughter of lives was unnecessary and uncalled for; that if these facts were known, then for reasons that have a criminal taint, the municipality had nurtured what sanitary science rec-

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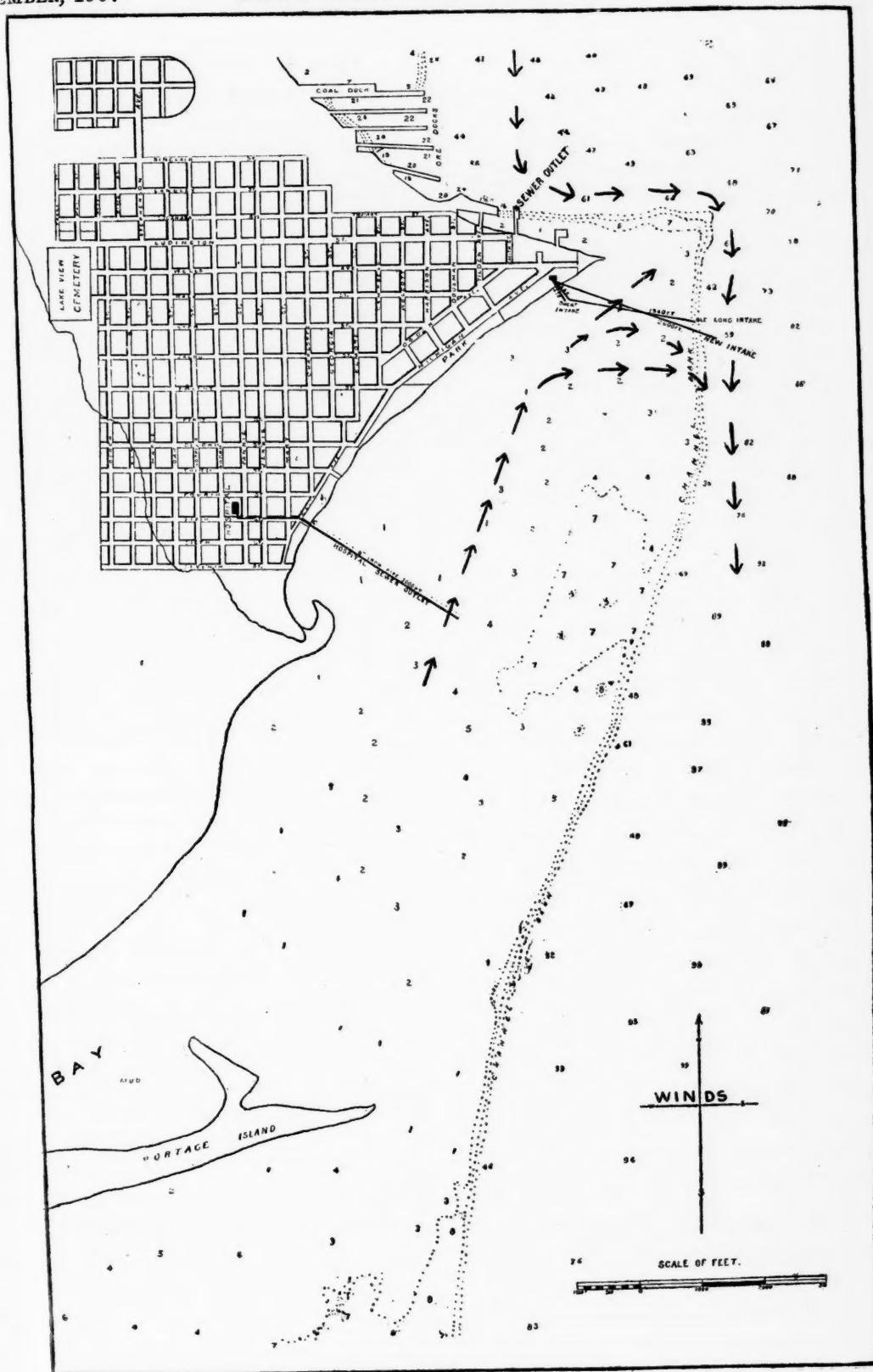
ognizes as definite and positive causal factors in these diseases; that again and again these conditions have nurtured disease, which has assumed gigantic proportions with the change of hygienic environment attendant upon the growth of any community; that medical dictum, though often baffled in its philanthropic sphere by dissensions within its own ranks, and at times seemingly overwhelmed by the waves of ignorance, jealousy, superstition, censure, false citizenship and hoodlum politics, shall yet triumph in spite of obstacles interposed. For, beset with many difficulties, the craft toward the saving of lives has been launched in Escanaba. Out of a vale of tears and vain regret, above the wail of the widow and the orphan in this pestilential reign of death in Escanaba, in clear view of therapeutic medical endeavor, redounds to the everlasting glory and redemption of our profession in this and similar crisis elsewhere, the life-saving virtues of prophylactic medicine. Sanitary reform, if not in the past, shall in the future stay the hand of death and be monumental to the profession, and to the city in general, inspiring a respect and gratitude worthy of the cause. In short, the situation in Escanaba from many view points has been a most deplorable one, but teeming with instruction in a medical and legal aspect, as well as in an ethical and diplomatic way.

The epidemic of 1903-'04 I have chosen for illustration because it developed the most varied symptomatology in its cases. I say varied symptomatology, because the histories of innumerable cases could be cited conforming well with the common text-book descriptions of either acute ileo-colitis, or acute catarrhal dysentery, acute gastro-enteritis, dysentery, Asiatic cholera, a-typical typhoid, and typhoid. And so it would be faulty procedure to cite any given individual outbreak as typical. There were pres-

ent all gradations, from the type of patient with but a very slight indisposition, to the extreme type taken suddenly sick and moribund in 48 to 72 hours, a picture of Asiatic cholera. I shall attempt to convey to your minds, therefore, a few types, upon which you can base your deductions.

**Type 1.**—Individual enjoying good health, without prodromal symptoms, is suddenly taken with feeling of malaise, nausea, and bilious vomiting. With or without these acute stomach symptoms at varying intervals, sharp colicky pains and a severe diarrhea appear. The stools are feculent, but very thin, very offensive, and may number from a single passage to twenty a day. Objective symptoms are practically negative. Temperature is normal. Pulse normal or slightly accelerated. The diagnosis of these conditions is based on the acute onset, the characteristic gastro-intestinal disturbances, and the usual course of the disease. Patient is really never incapacitated for work, resorts to ordinary home remedies, or is subjected to a routine treatment of castor oil in large doses, followed by astringents and bowel antiseptics administered by his medical adviser, and is well in from 24 hours to three days.

**Type 2.**—Patient may feel indisposed for a few days, complaining of loss of appetite, lassitude, nausea, vomiting, acute pains in joints and muscles, as well as a general soreness throughout his body, headache, and a bowel irregularity in the way of unusual constipation or a slight diarrhea. Within 24 to 72 hours the discharges become more frequent, numbering twenty to forty a day. Feculent at first, they soon become seromucous, mixed with blood. Intense tenesmus is present. Patient may show signs of collapse. Tenesmus is relieved at this stage by passages of what may be nothing but shreds of necrotic mucous membrane, mixed with clear blood



MAP A

or coagula of blood. Stools are not offensive. Tongue is dry and parched. The temperature is not at all characteristic, but influenced by apparent intoxication may vary from sub-normal to 104 degrees. I have noticed in these cases, quite a common condition of cramp in the arms, hands and legs.

As in Type 1, objective symptoms do not aid us materially in arriving at the real condition of the patient. Tympanites is the exception, unless produced by complications, of which perforation has been known to cause death. Tenderness over the abdomen is quite general. The disease in this type of case runs a varying course of from one to three weeks, when convalescence is gradually established.

It is this type in the epidemic that showed the greatest mortality. The fatal cases were characterized by a greater intensity of symptoms on the part of the gastro-intestinal tract, a more severe prostration, and collapse, coming on within 48 to 72 hours after the onset. The patient with a normal, or more commonly, a sub-normal temperature, becomes clammy, the skin cyanotic, the pulse small and thready, giving us in sudden death a very good picture of Asiatic cholera.

**Type 3.**—This type of case presented a most unusual and complex array of symptoms. The cases objectively simulated typhoid, yet in their history, course, and fatality, differed materially from typhoid. The bowel symptoms differed in intensity in different cases, assuming in some few a dysenteric character, while in others bowel symptoms were in the background. The temperature in this class of case varied from 98.6 to 104, was continuous but irregular, and entirely different from the remittent character of typhoid.

**Type 4.**—This type includes typhoid as experienced in the epidemic.

The actual death-rate during this epidemic will also aid in giving you a more exact picture of the situation. The deaths numbered 61, of which typhoid claimed 32, enteric fever 8, acute gastro-enteritis 5, entero-colitis and the gastro-intestinal form of influenza, each 4, cholera infantum and dysentery, each 2, and cholera, cholera morbus, ptomaine poisoning and the old term, very vague at this day and age, of inflammation of the bowels, each 1. With this wide range of diagnosis that the death certificates thus furnish, including everything at all feasible, from ptomaine poisoning to Asiatic cholera, becomes apparent a difficulty in diagnoses, and a most varied opinion as to etiology. The situation as expressed, clouded with an uncertainty as to causal factors and specific diagnosis, gives you in a slight way, the status of the profession of Escanaba, face to face with a monster of most horrible mien.

In looking over the situation in Escanaba with a view to determining the causes back of this and similar outbreaks, I was forcibly struck by a history of typhoid and bowel troubles in the jurisdiction, previous to and since the epidemic just described to you. In an unassuming, but significant role, bowel disturbances had for years past been allotted a high death rate. Sporadic at times, they have in Escanaba, as in other communities, from time to time taken on epidemic proportions. It will be well at this point, in order to elicit a clearer picture of the history of the bowel disturbances as they exist in Escanaba, to call your attention to "Table A," which will give you the typhoid history in outbreaks and death-rate per 100,000 of population.

TABLE "A."

*Cases and Death-rate of Typhoid in Escanaba.*

Year.	Estimated Population.	Cases.	Death-rate per 100,000.
		Deaths.	
1898 .....	10,500	20	19
1899 .....	10,500	60	57
1900 .....	10,093	140	138
1901 .....	10,444	50	47
1902 .....	10,795	70	64
1903 .....	11,146	40	35
1904 .....	11,500	300	260
1905 .....	11,500	210	181
1906 .....	11,500	120	104
1907 .....	11,500	270	191

Death-rate of 1907, up to and including May 11, 1907.

A study of this table will show the presence of typhoid to an extent, that, in the light of sanitary achievements elsewhere, strongly reflects not alone on the civic authorities, but also on those of us, who, as medical advisers, should be well versed in preventive medicine, and faithful to our trust, should ever be the guardians of health. Typhoid fever in 1904, as this record will show, had the maximum death rate of 260 per 100,000, the year 1898 the minimum death rate of 19 per 100,000. During the past decade, four successive years have shown the appalling death rate of over 100 per 100,000, which, considering an average death rate of 10%, would suggest an epidemic of 1,000 cases per 100,000 of population. The present year will claim the highest mortality of typhoid ever recorded in Escanaba. Considering three deaths per 100,000, an inexcusable death rate of this clearly preventable disease, a slaughter of lives is apparent.

To better classify Escanaba with reference to typhoid, I beg to call your attention to Table "B," which will allow comparison to be made with the death rate of other American cities.

TABLE "B."

Escanaba .....	260.0
Pittsburg, Pa. ....	124.7
Allegheny, Pa. ....	100.8
New Haven, Conn. ....	92.0

A—Charleston, S. C. ....	73.8
Washington, D. C. ....	67.3
A—Galveston, Tex. ....	67.0
A—San Antonio, Tex. ....	67.0
Atlanta, Ga. ....	61.7
Minneapolis, Minn. ....	57.6
Troy, N. Y. ....	57.3
Louisville, Ky. ....	56.3
A—Montgomery, Ala. ....	54.0
Cincinnati, Ohio ....	53.5
Denver, Col. ....	47.9
New Orleans, La. ....	47.0
Nashville, Tenn. ....	45.5
Kansas City, Mo. ....	42.9
Reading, Pa. ....	42.7
Wilmington, Del. ....	42.0
A—Memphis, Tenn. ....	40.9
A—Canton, Ohio ....	40.0
Cleveland, Ohio ....	35.9
Columbus, Ohio ....	35.5
A—South Bend, Ind. ....	35.0
Richmond, Va. ....	34.8
Grand Rapids, Mich. ....	34.7
Salt Lake City, Utah ....	34.5
Philadelphia, Pa. ....	33.3
St. Louis, Mo. ....	33.3
Hartford, Conn. ....	30.6
Scranton, Pa. ....	30.1
Toledo, Ohio ....	30.0
Los Angeles, Cal. ....	29.1
New Bedford, Mass. ....	28.8
Indianapolis, Ind. ....	27.4
Baltimore, Md. ....	27.3
Paterson, N. J. ....	27.0
Buffalo, N. Y. ....	26.8
Evanston, Ind. ....	26.6
Providence, R. I. ....	26.4
Dayton, Ohio ....	25.6
Peoria, Ill. ....	25.0
Boston, Mass. ....	24.6
Springfield, Mass. ....	24.6
Portland, Ore. ....	24.5
Seattle, Wash. ....	24.4
Albany, N. Y. ....	24.0
Hoboken, N. J. ....	23.0
Newark, N. J. ....	22.4
Omaha, Neb. ....	21.8
Worcester, Mass. ....	21.5
Milwaukee, Wis. ....	21.2
New York, N. Y. ....	20.3
San Francisco, Cal. ....	29.0
Fall River, Mass. ....	19.6
St. Joseph, Mo. ....	19.3
Manchester, N. H. ....	19.1

Lowell, Mass. ....	18.9
Somerville, Mass. ....	18.9
Trenton, N. J. ....	18.7
Des Moines, Ia. ....	18.6
Lawrence, Mass. ....	18.5
Rochester, N. Y. ....	18.2
Bridgeport, Conn. ....	16.9
Jersey City, N. J. ....	16.4
Camden, N. J. ....	16.2
Detroit, Mich. ....	15.7
Utica, N. Y. ....	15.5
Syracuse, N. Y. ....	15.0
Lynn, Mass. ....	14.3
St. Paul, Minn. ....	14.1
Oakland, Cal. ....	13.3
Cambridge, Mass. ....	10.6
A—Savannah, Ga. ....	9.7

Note—"A" cities that are using artesian water.

In comparing Table "A" with Table "B," our typhoid mortality in Escanaba looms up in marked contrast with that of other cities of the United States, with a greater population and much less favorable environment. The intensity of our typhoid is still more forcibly expressed in the words of the Monthly Bulletin of Vital Statistics published in Lansing, which correctly states, "There were more deaths in Escanaba from typhoid in April, 1904, than in all cities of like class in the state taken together; just as many in March, and just as many in May. There were five deaths in February from typhoid, or as many as occurred in all other cities of the class with over thirty times the population, and in March there were four deaths from this cause, which actually exceeded the deaths from typhoid in all other cities of the class." In passing, I will state, and you will observe in Table "B," that artesian water does not establish immunity against typhoid infection.

The mortality of bowel trouble other than typhoid, however, as pictured to you in types 1, 2 and 3, has been the most serious and has demanded the most of our attention. The deaths recorded give one but little idea of the magnitude of these disturbances

which but few households escaped from, and which have claimed many hundreds of adult lives. It will be noticed, in studying Table "C," which, in brief, gives you the history of water-born diseases other than typhoid, that these have maintained a death rate varying from 69 to 426 per 100,000.

TABLE "C."

*Deaths from So-called "Winter-Cholera" Since 1898.*

Year.	Estimated Population.	Deaths.	Death-rate per 100,000
1898	10,500	10	90
1899	10,500	8	76
1900	10,093	25	247
1901	10,444	15	143
1902	10,795	22	203
1903	11,146	18	161
1904	11,500	37	321
1905	11,500	49	426
1906	11,500	28	243
1907	11,500	8	69

Up to and inclusive, May 11, 1907.

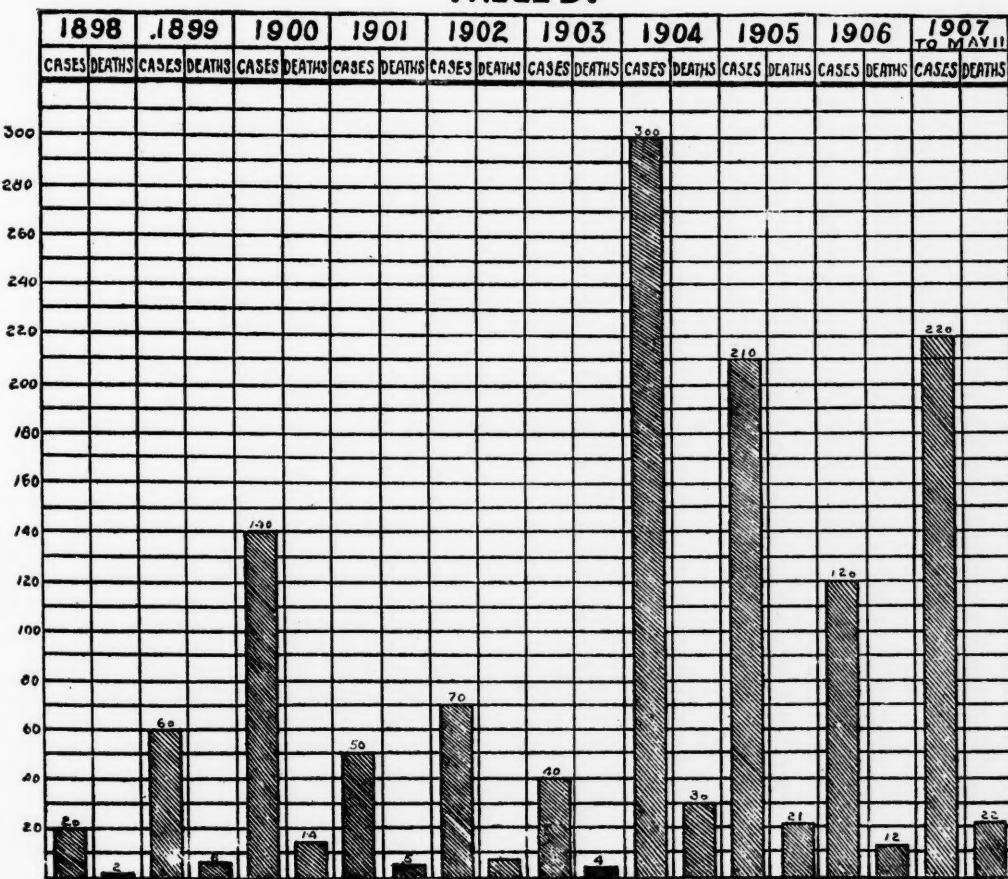
The mortuary tables as presented net the history of bowel disturbances a very interesting fact, in the exacerbation and decline of these troubles. An interdependence between typhoid and allied troubles is clearly suggested in Table "E." It will be noticed that typhoid in its ascendancy, as far as its death rate is concerned, in every instance is characterized by a corresponding prevalence of diseases other than typhoid, and vice versa. In this definite relationship, so graphically shown, is strongly suggested a common cause in these outbreaks.

I have reason to believe that the importance of water in relation to a group of bowel disturbances as described to you, is well understood. I have also reason to believe that you are reconciled by the thought that the symptomatology of the diseases as given you, is not at variance with that of other similar epidemics, which in Escanaba and elsewhere stand forth as a blot on this glorious country of ours. At any rate, it is an axiomatic truth, in sanitary science,

that typhoid and allied troubles would dwindle into insignificance in any municipality if pure water could be served to its householders. In other words, it has again and again been clearly and forcibly proven, that directly in proportion as our public water supplies are unguarded against pollution, typhoid and other bowel troubles flourish. These

wished for than the history of onset of some few of these conditions. The failure to boil water, as well as an occasional use of water in the city, would precipitate a most severe symptomatology. The direct relationship of individual outbreaks was even more forcibly shown by strangers in the city. Twelve hours' sojourn would find them with all the char-

TABLE "D".



truths, with the demonstration of the interdependence that exists between these diseases, as shown in Table "E," make water pollution a very suspicious and most interesting factor.

While not conclusive, no more vivid and practical picture of the relationship of water to the bowel troubles described as they exist in Escanaba could be

acteristic symptoms as described in Type 1. As were affected individuals from villages and cities close to Escanaba, free from every form of bowel trouble, so were affected show troops, laboring crews, travelers and other itinerants.

I wish to cite in detail the experience of one family that furnished me with considerable information, which so

strongly suggested water pollution, and epitomizes every phase of our situation. On the morning of March 1st, 1904, when the epidemic described was at its height, I was called to the home of Mr. P., who had arrived in the city February 27th., with a wife and a family of five beautiful children in full health. The family of children consisted of a daughter 8 years of age, and four boys at the ages of 10, 5, 3, and 1, respectively. Arriving in the city February 27th., on March 1st, 48 hours after their arrival, Tom, age 5, and Lizzie, age 8, took sick with a severe attack of vomiting and an intense diarrhea. The remaining three boys, 10, 3, and 1, respectively, were also indisposed at this time, but were not acutely sick, as were the other two children. Calling at the home March 2d, I found the whole family sick with one form or another of bowel trouble. The parents and children, in the course of their sickness, developed a symptomatology common to types 1, 2, and 4, even to the characteristic vomitus and stools, the stools varying from feculent or sero-mucous, to a muco-purulent, mixed with clear blood or coagula of blood, as well as necrotic bits of mucous membrane. The boy of 10, following repeated attacks of the disease as described to you in type 1, three weeks following the initial illness, developed typhoid fever. Cultures made from the stools of these patients netted me nothing but the bacillus coli communis. When first called to this home, my attention was called to a crepe on the house next door. Typhoid there had claimed as a victim a child of 14. At the same time, another child was battling for supremacy in that same household, with a typhoid infection. Those two adjoining homes, drawing water from the same faucet, enacted the tragedy so often repeated in Escanaba.

Getting down to fact, as far back as 1899, Gardner S. Williams, formerly

hydraulic engineer in charge of the laboratory at Cornell, now affiliated with the University of Michigan, compiled a report on Michigan water supplies. In this report he cites Escanaba as one of the fifteen possibly contaminated great lakes supplies. Was this disposition of Escanaba a correct one? With the opinion of Gardner S. Williams, and with the brief history of the intestinal disturbances that I have given you, the question of water has a most interesting history in Escanaba.

Escanaba is situated on Little Bay de Noc, an inlet of Green Bay. Until the year 1887, Escanaba's only source of water for domestic purposes was that obtained through driven wells. In the year 1886 a franchise was granted to a corporate body of men for a supply of water, the natural source of which should be Little Bay de Noc. Map "A," if consulted, will more clearly bring to your minds the essential features of the bay, of the bay bed, of its currents and also winds, as these have a bearing on the subject we have before us for study this morning. I shall state that the flow of the main current of water is south, and the winds prevailing are southerly. On account of sand shoal formations which exist in the bay, the main current of water is confined by very sharp and definite channel banks. Escanaba, as Map "A" will show you, is built on a peninsula, commonly known as "Sand Point." From the point of the peninsula, and from off the shore, such a sand shoal extends for many miles southward, out into the bay, forming the bay bed for a veritable distance of 1,500 to 3,000 feet. This exists as a plateau, until an abrupt dip occurs, where it serves the purpose of the deep channel bank.

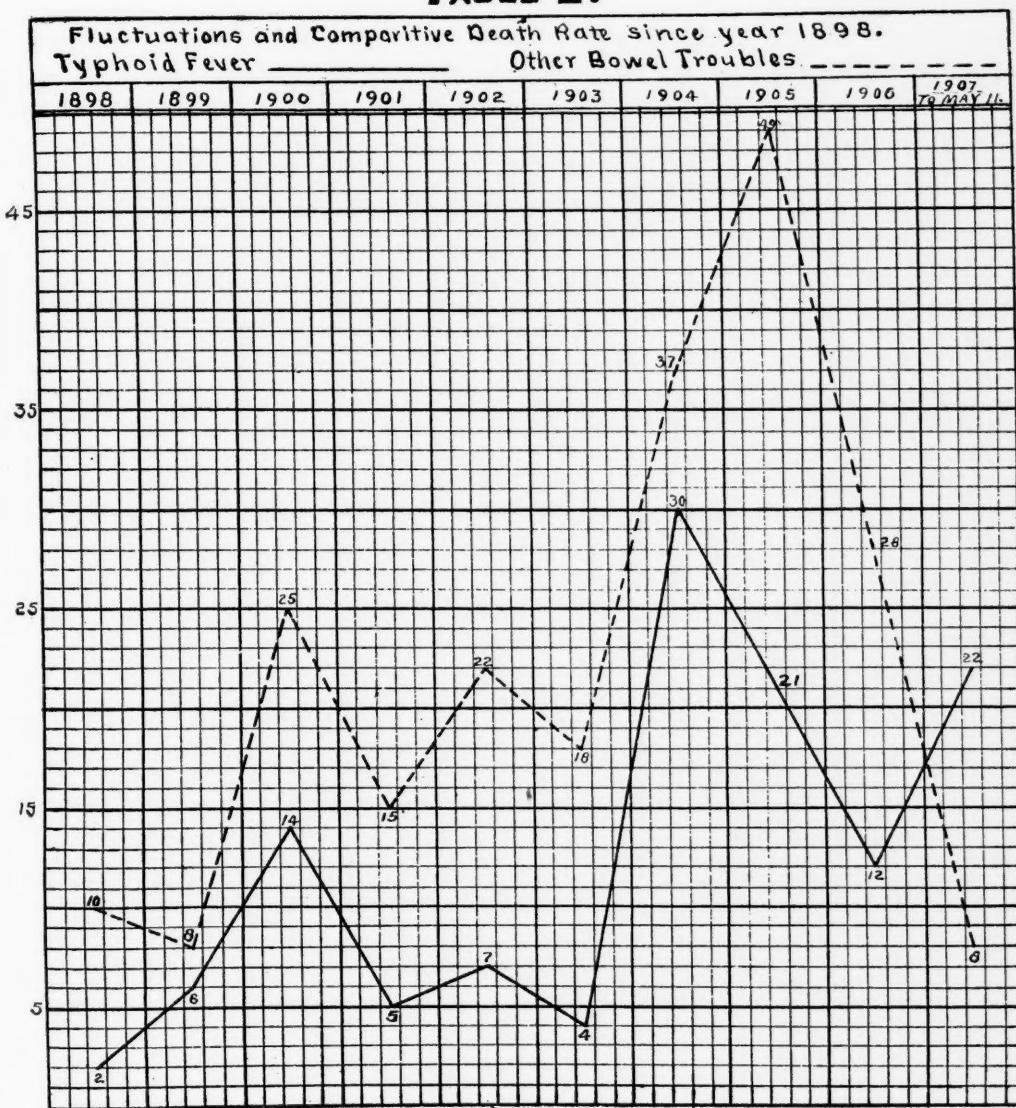
Following the granting of the franchise in 1886, the water plant was immediately installed. When completed, the water was obtained through an in-

take 1,500 feet in length, extending out into the bay on the shoal described. This intake was in 20 feet of water. In order to insure adequate fire protection at this time, it was deemed advisable to construct what was termed a "short in-

service, consisted of the intakes described, a sand bottom settling tank, and the pumping mechanism.

With the introduction of faucet water and the increasing density of population, the rural methods in vogue for the dis-

TABLE 'E.'



take," drawing water as did the "long intake," from off this sand shoal. This short intake was 258 feet from the shore, at a depth of five feet. The pumping station complete, therefore, at its initial

position of house refuse and other offal became a menace to health, and it was deemed necessary to plan a sewer system. This system was put into commission in the year 1891, and though

devised and approved at that time by sanitary experts, we find the main outlets emptying under the Stephenson dock (see Map "A") discharging their contents, composed of stools, surface water, that drains the filth of alleys and back yards, as well as streets, into a stream of water, which flows around Sand Point, thence down and out of the bay in a current of water, the flow of which is south, not away from the intakes described, but towards them, depositing by gravity in its course, the common offal described. Human intelligence saw fit to have the inhabitants of the city of Escanaba partake of water so polluted, little realizing at that time perhaps, that such a procedure would prove an expensive one in a sacrifice of a commodity so necessary to thrift and progress of a city as human lives. In a very stealthy way, without an alarm for the people's awakening, typhoid and other intestinal disorders began to appear, and many of our older citizens at that time, with the welfare of the city at heart, in a very forcible and intelligent way, from time to time began to question whether or no the inhabitants of the city were really getting a wholesome water. It was urged upon the Escanaba Water Company that, because the intake was so near the shore, with the possibility of the waters of this shoal carrying out surface contamination, as well as standing in position to be affected by the sewerage carried into the bay, it might be well to extend the main intake. This was done in 1894, so that it measured 1,940 feet, involving an extension of 440 feet bringing the then long intake up to the channel bank, but not into deep water. It was actually drawing water at the depth of 45 feet. (See Map "A.")

Whether or no the building of the hospital sewer, so-called, (see Map "A") carrying the excreta and other offal of patients and attendants in the Delta

County Hospital 1,000 feet out on this shoal, in but a few feet of water, and within 4,000 feet south of the long intake, as it then existed, had any influence to exaggerate conditions or help to maintain conditions as they existed, there can be no question. This water on the shoal, thus polluted many times with hundreds of stools of typhoid patients, and at the mercy of wind and waves, could only aid, by the water served through the intake, all the factors necessary for an exacerbation of any endemic bowel trouble. This sewer certainly implies but little foresight, and was, to say the least, a most criminal venture. At any rate, though the intake was extended from 1,500 feet to 1,940 feet, and from an original depth of 20 feet to 45 feet, the endemic troubles, which the extension purposed to eradicate, still existed with the mortality that Tables "A" and "C" so forcibly show. In spite of the extension and the expenditure of money involved, typhoid still maintained a death-rate varying from 19 to 260 per 100,000, and other kindred bowel troubles a death-rate varying from 76 to 426 per 100,000. With this slaughter far from abating, the cry again went up that the water supply of the city was far from usable. Pressure was again brought to bear upon the water company towards making them realize that there was something radically wrong, and that something ought to be done to eliminate the sacrifice of human lives. The officials of the water company, evidently realizing the justice of such demands, again sought to improve matters. The work done, however, as in the past, was unmethodical, and with little regard for the principles sanitary science has so often emphasized in the construction of pumping stations and their appurtenances. They undertook to construct a new intake 2,600 feet in length with a crib in 65 feet of water, at a cost of \$26,000. (See Map "A" New Intake.)

Its completion, looked forward to so eagerly, with everybody hoping that bowel disturbances at its completion would no longer command the high death-rate of the past, proved a decided disappointment. Like all other improvements ever made, this also failed to alleviate conditions, and the epidemic of 1904 assumed greater proportions in 1905, and since then.

In February, 1905, with conditions not alleviated by the new intake, a bacteriological and chemical examination of samples of water taken from the bay at appropriate points, including water from the crib, settling tank, and many faucets throughout the city, was made. To summarize the findings, I will state in brief, that in nearly every instance, samples taken at that time and since then, have shown bacteriological growth in a degree that was vicious. The bacillus coli communis and other organisms of the colon group, were the offenders by cultural demonstration. With the fact that typhoid bacilli have no permanent independent existence outside the human economy, and with the experience of research in other strictly typhoid epidemics, in which the finding of this bacillus was the exception, one is not at all surprised at the negative finding in the waters analyzed. And still I feel warranted to say, that the daily examination of faucet water would have netted me a positive reaction. The same difficulty that is experienced with the typhoid bacillus, one also experiences in trying to demonstrate one of the many forms of the bacillus dysenteriae, which with the bacillus entereditis sporogenes is recognized as a most common factor, in all forms of acute diarrhea and dysentery produced by polluted waters. The chemical findings in excess of chlorin, nitrates and nitrites, free and albuminoid ammonia, as well as organic matter, showed the water in nearly every in-

stance very suspicious of active pollution.

When one considers that 98% of typhoid and other bowel disturbances that exist in municipalities are conveyed either by water or milk, it becomes important not to overlook water supplied by wells. Unless the public supply is grossly contaminated, it is by far safer than private wells in a city the size and geological formation of Escanaba. No matter how good the public supply, there are those in any community who will be persistent in the use of driven wells. It was my privilege to show pollution in many wells in Escanaba, and in some specific cases, clearly trace a second and third case of typhoid in households, to water from a driven well at a depth of ten feet, within fifteen or twenty feet of an outhouse, that at some time previous had received the dejecta of a first typhoid case clearly traceable to faucet water. Filthy surroundings, and gross carelessness in handling stools of patients sick with typhoid, will always be of bad omen in any community that is dependent upon well water in this city, and no matter how pure the public supply may be, with **well water** gaining access into the human body and coming in contact with household articles of food, such as milk, will always help to maintain a high death-rate. The public consumers of Escanaba average 60%. No matter how pure the water from other sources, the 40% of well users in the city will always maintain a high typhoid mortality.

That milk is a link in the chain of cause and effect occasions no surprise. The relationship of milk infection to infant mortality, as also the importance of milk in disseminating disease, is well known to you, and I shall not enlarge on this phase of our trouble. I shall only say that a definite relationship between milk and isolated cases of disease has been proven.

In addition to the avenues of infection cited, there are many other factors contributing to these, which the transition of any municipality, from village to city, implies. This evolution demands that rural methods of sanitation must needs be replaced by what is more in accord with modern sanitary thought. Such, however, is not always the case. The question of sewerage, therefore, as an illustration, in each and every community becomes a difficult problem, as it has a direct bearing on the health of the community, equally as much as home hygiene.

With the demonstration of a polluted water, it remains for us to reconcile the symptomatology of the bowel troubles encountered with specific etiological factors. In the symptomatology, most varied and decidedly interesting, and with water pollution as evidenced, sanitary science demands that we recognize the possible activity of some few definite organisms. And in the light of the epidemic experienced in Escanaba, it is most ridiculous for any one to seek any hidden or mystical cause or explain the diseases in any other way than by associating them with definite bacteriological factors. A polluted water, in any instance, implies the relationship of cause and effect. We must always recognize the activity of definite organisms which in the water produce diseases, and although no demonstration of any organism outside of the colon bacillus and of the colon group has been made, as in other epidemics of a similar nature, we may acquiesce in the fact that other organisms were undoubtedly present. It would not have occasioned, in other words, any surprise to find by bacteriological demonstration, these other organisms associated with water-born diseases. The bacillus dysenteriae, bacillus enteritis sporogenes, bacillus typhosus, and the bacillus associated with paratyphoid, all bear a direct relationship to

polluted water, or in activity with the putrefactive organisms such as the proteus or lactic acid group furnish, and which are normally present in the bowel. We have absolutely no ground to think the bacteriology of our diseases, as experienced in Escanaba, in the endemic and epidemic bowel disturbances, any different from the findings in other communities with an identical history. And with this definite bacteriological relationship, definite diagnostic principles evolve.

The etiology of typhoid and allied bowel troubles at this day and age, ought not to be questioned. With typhoid etiology clearly in mind, and with the direct relationship of many other forms of bowel trouble to typhoid fever, there can be no question at all as to the fact that we have had to deal in Escanaba with certain definite organisms. In any epidemic of bowel troubles as experienced in Escanaba, the great variety of cases that present themselves permit of many diagnoses, and offer a most varied pathology. But, notwithstanding this most unusual and varied symptomatology, the unusual intensity of symptoms, and the exceedingly high mortality that these net us, from the standpoint of a definite bacteriological causal factor and the implied modus operandi through the associated bactillemia and toxemia, the wide range of diagnoses encountered on the death certificates, must be set aside.

The authorities will bear me out in the statement that the differential diagnosis between the milder forms of bowel troubles and the milder forms of dysentery, are exceedingly difficult to make. As regards the differential diagnosis of dysentery and typhoid, there is in most minds no question. They are looked upon as not at all similar, and of easy differentiation. And so it is a very easy matter, with a knowledge of typhoid as furnished by the average text book. Yet

one realizes in a wide experience of typhoid, that it not always is the clearly defined infection, as generally pictured. The more typhoid one has the privilege of attending, the more forcibly will come home the argument that the course of typhoid is not a very definite one, that the stages of typhoid and their associated symptoms, as outlined in the average text book, from pyrogenetic stage to the stage of defervescence, are not unalterable. As the intoxication may be mild or severe, or as we have to deal with a simple infection or mixed infection, so the classical picture of typhoid is many times obliterated. It is not strange to find typhoid, as we have experienced it, in symptomatology and fatality assume a picture of dysentery, showing post mortem the pathology of dysentery, existing as a secondary infection. With the picture of typhoid, thus altered, it is many times possible by examination of body fluids and stools, to diagnose typhoid, with the picture of collapse, prostration, dysenteric stools, and acuteness of disease, strongly suggesting dysentery. Subjective reasoning, in coming face to face with a situation different from the ordinary, will allow most absurd diagnoses to suggest themselves, whereas objective study will confine your deductions, to your surprise, to a line of reasoning that in a logical way will lead you to a diagnosis little thought of. There is no question that in many epidemics similar to the one described, much that detailed work would establish as clearly typhoid fever, is overlooked, but because individual outbreaks in their acuteness, prostration and death in from 48 to 72 hours simulate specific dysentery or true Asiatic cholera. And so Type 2 in its more severe forms of bowel trouble as pictured to you, with an obliterated typhoid symptomatology, have many times, to my surprise, evidenced their relationship to the bacillus typhosus by bac-

teriological demonstration. Major V. C. Vaughan, co-editor of the Report on the Origin and Spread of Typhoid Fever in the Spanish War of 1898, establishes the fact that such a symptomatology, with the gravity as portrayed, should not be oriented in differential diagnoses, and should not at all be looked at as an unusual manifestation of the bacillus of typhoid fever. His observations help to establish the truth of my contention as made in this respect.

I have reason to believe that we have in this epidemic and endemic bowel trouble in Escanaba to deal with some few definite organisms. In Types 1, 2, 3 and 4 is implied a definite bacteriology. I associate with Type 1 an activity of the colon bacillus and other organisms of the colon group; with Type 2, the bacillus entereditis; with Type 3, the causal factor of para-typhoid which exists in a bacillus, generally isolated from the blood and feces of patients sick, and which morphologically and culturally is closely related to bacillus typhosus; with Type 4, the bacillus of typhoid fever, playing its role in the most varied symptomatology that typhoid granted us in Escanaba. With these specific causes of disease it is imperative to associate putrefactive organisms normally present in the bowel, for undoubtedly, in many instances, a mixed or secondary infection exists.

In this day of bacteriological evolution, with typhoid and para-typhoid, colon and para-colon infections with the theory of mixed infection, with the theory of exaltation as applied to the life of any organisms, allowing it to take on a greater virulence and pathogenesis towards man, with the theory of the bacillus coli communis, under favorable circumstances, taking on the morphology and toxic properties of the bacillus typhosus, with the uncertainty of being able to definitely classify a great variety of organisms similar, yet in their mor-

phology and cultural attributes, differing slightly, with the uncertainty of the intra- and extra-cellular activity of this protoplasmic germ-mass in the elaboration of toxalbumins or other definite organic, chemical compounds, it becomes evident that any disease, dependent on a specific organism, is liable to vary in its symptomatology. In an epidemic, therefore, as experienced, the varied symptomatology is easily explained.

So much with reference to causal factors, diagnosis and pathology. Three years ago specific recommendations were made to the mayor and common council towards alleviating the conditions. Nothing definite, however, has been accomplished but I am glad to say that after three or four years of warfare, during which time the fight, political and otherwise, has waxed warm, some few recommendations then made are to be carried out. It was my pleasure, recently, to meet in joint session with the corporate officials of the water company, their sanitary engineer, a special water committee of the council, appointed by the mayor after making a report to the newly organized council of this spring, and a committee appointed by the directors of the Business Men's Association of our city, to discuss ways and means towards bringing about the needed reform. The result of the meeting will be the building of a modern filtering plant with a daily capacity of 6,000,000 gallons. With this one recommendation carried out by the city authorities, the grand saving of lives will have been inaugurated. With a pure public supply of water, driven wells will gradually be abandoned, and thus two of the most important factors in disease will be annihilated. Thus we have reason to feel that extensive sanitary reform has been inaugurated that shall make Escanaba the healthful community it should be.

With the recognition of typhoid and other diseases established as water-born, the issue, paramount to all others, resolves itself into means of prevention. Sanitary reform as it is dependent on state or city enactments, is beset with many difficulties. To accomplish anything along this line also demands a diplomacy and tact equally as much as a comprehensive knowledge of any given situation. In an attempt to apply remedial measures, one finds, in the ignorance and superstition of the people, mighty obstacles against progress. Not only will petty grievances work evil, but with a corporate body of men having vested interests at stake, as is the case in Escanaba, dissension will be stimulated and lives criminally sacrificed because of these. And yet this is not the worst evil. Simple ignorance is open to conviction, but an ignorance that a certain type of egotist is saturated with, who sets himself up as authority, stands ever ready to halt any inroad of modern thought. This same class of individuals is ready to stigmatize those men who are using their efforts to bring about needed reform, as fanatics and extremists.

The triumph of our profession centers itself in preventive medicine. The highest standard of professional excellence is embodied in the ambition of all of us to put to practical use the life-saving feats of those martyrs of our profession, that in their painstaking and unselfish labors have so clearly shown the causal factors in disease. To go on day by day in routine work of our practice, never realizing that sanitary duties are incumbent upon us, expresses but little regard or appreciation of the labors of such men as Carroll, Reed, Lazear and Myers, all well known to you. Can one do aught else but reverence Lazear and Myers, who in the zeal and earnestness of their labors sacrificed their lives for a cause that has meant the saving of

thousands of lives, and has granted this country the glory of the labor of these men in the Yellow Fever Commission that has established the causal factor in yellow fever and has removed the scourge of this disease?

In closing, therefore, I can do no better than to make a plea for three things that will materially aid and stimulate in any community a desire to apply the principles of preventive medicine. While the Compiled Laws of 1897 in Act 4796 and Act 4797, make it obligatory upon every school board to have in their prescribed course of study instruction on sanitary matters, but few cities derive the benefit of this Act. No other institution can serve a city more ably in building character than its school system. As it is well to outline the civic duties of the rising generation, and thus help to make life more harmonious and less selfish, so it is well that in sanitary matters we instill into the minds of these children, what shall mean the saving of lives and the alleviating of much misery. As our public school system is a stronghold of a democratic and republican form of government, so it should be made the bulwark of sanitation, and be instrumental in sending into every home, regardless of nationality or surroundings, the life-saving virtues of home hygiene. Superstition and ignorance will thus in time be replaced by a keen interest in sanitary reform, and the difficulties, political and otherwise, that it is beset with, will meet their doom.

Again, a human life is a commodity that organized government sanctions as integral and essential to its welfare. As members of the medical profession of our country, we can rightfully ask the question—What country has better reasons to be glorified by prophylactic medicine than this great republic of ours, and express the highest culture and highest civilization in an expression of humanitarianism exemplified in the

actual saving of human lives? Although the principles of prophylactic medicine are far-reaching in this country, the greatest good is not being accomplished; as the death-rate in Escanaba and many of our larger American cities will testify to.

Nothing could more materially aid endeavors along this line than the establishing of a National Department of Health with cabinet representation. In truth this inauguration would be a mile-stone in the onward march of preventive medicine. As a means to an end, such a department should be welcomed. With the density of population increasing, water pollution and sewerage disposal more and more tax the vigilance and ingenuity of the people. With typhoid as prominent an offender as it is, National or State legislation becomes imperative. The past decade has been only too rich in epidemics of these diseases, clearly filth and water-born.

And, finally, a greater interest in public health work generally needs to be stimulated. Preventive medicine, to be the triumph of our profession, needs the co-operation and individual support of all of us. As one need not be in the line of battle in war time, but by a patriotism and staunchness in support of any cause, can well serve his home and country in citizenship, so it is not necessary for any of us to sacrifice our lives, to glorify preventive medicine and medical research fostering it, as did Lazear and Myers. But we can, to say the least, do our duty as progressive men in the ranks of our profession, to uphold the principles that these men have established beyond question, and for which they have sacrificed their lives. And as public health, as established in the army and navy, has netted grand results, so public health work, can be the foundation in every state of this union, for the growth and development

of preventive medicine. It should not be necessary for legislators to impose duties with reference to infectious diseases, but it should be the desire and ambition of every well-read, progressive man, in the ranks of our profession, to find a pleasure in the support of this work. The achievements in prophylactic medicine that we recognize today, have been secured to us largely by much valuable aid that vital statistics have furnished us. Epidemics, such as described to you, and as experienced in many of our cities throughout the country, should offer instruction, not alone in the community that harbors them, but to the country at large, and yet, because of an apparent indifference in reporting individual outbreaks, they signally failed in this respect. It becomes

necessary many times to grope in darkness for a cause that vital statistics may point out, but that neglect in the ranks of the profession has shielded. Blame cannot but rest on the profession under those circumstances.

And, to be sure, "if we can interest our governments," in the words of Senn, "our people, our educators, the public press," and, I shall add, the medical profession, "in this great movement of abolishing preventable disease," and not until then, "may we confidently expect the millenium in medicine, which will be inaugurated by the final triumph of scientific medicine."

"Conquer we shall, but we must first contend;  
'Tis not the fight that crowns us, but  
the end."

### OBSERVATIONS ON THE DIAZO REACTION IN URINE.\*

**Chemistry of the Reaction, Indications in the Urine, Clinical Significance, Reports, Diagnostic Value, Cautions.**

**WILFRID HAUGHEY, A. M., M. D.,  
Battle Creek.**

Prominent among the laboratory methods recommended for the diagnosis of typhoid fever is the so-called diazo reaction, as proposed by Ehrlich. Chemically this reaction, or its principle, is of great value in the arts. The term "diazo reaction" refers to a certain definite procedure by which many of the aniline dyes of commerce are made. In the preparation of these dyes, the process is briefly as follows: A certain aromatic radicle, depending on the dye desired, is

united to the aniline radicle, or some derivative of this radicle, by the diazo group. This diazo group consists of two nitrogen atoms joined together in such a way that each takes up two valences of the other, leaving one valence of each free. This free valence unites on the one hand to the aromatic radicle, and on the other to the aniline radicle or its derivative. Salts of these compounds, sulphates, oxalates, hydrochlorides, etc., are the aniline dyes of the arts.

The diazo test of Ehrlich is made by

\*Read before the Michigan State Medical Society at Saginaw, May 15 and 16, and approved for publication by the Publication Committee.

NOVEMBER, 1907

## DIAZO REACTION—HAUGHEY

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adding to ten cc. of a saturated solution of sulphanilic acid in 5 per cent hydrochloric acid a drop or two of a .5 per cent solution of nitrite of soda. To this mixture an equal volume of urine is added, and the whole quickly saturated with ammonia. A red color extending into the foam is indicative of a positive reaction.

Sulphanilic acid is a derivative of aniline oil produced by the substitution of the sulphuric acid radicle, so that the dye formed from this derivative will be the sulphate salt mentioned above. Sulphanilic acid is largely used in the aniline dye industry. The nitrite of soda furnishes the nitrous acid from which the diazo group is derived. According to Novy, "the substance giving the reaction is an aromatic compound, probably a metabolic product, occurring in the urine under certain special conditions." Novy's argument is largely one of analogy, for the substance itself has never been isolated. Accepting this argument, this substance, on account of its complexity, probably comes from some proteid material, being a product of impaired katabolism. A fact of interest, tending to support the opinion just stated, but of whose value I am as yet uncertain, is that in all my tests, whenever I have found the diazo reaction, I have found the urea excretion low, averaging 1.3 per cent.

The body condition which will cause this peculiar impairment of the metabolism has been the object of investigation by many different scientists, whose conclusions agree in the main with those of Ehrlich, who in 1906 claimed that "the reaction is never found in healthy individuals; in non-febrile diseases only exceptionally, and in the following instances: advanced heart disease, chronic hepatitis, carcinoma (especially of the pylorus), leukemia, marasmus senilis, cachexia of malaria, and in cold abscess. Febrile diseases may be divided as fol-

lows: First, those in which the reaction is almost always absent, as arthritic rheumatism, meningitis; second, those in which it may occur more or less frequently according to the nature of the attack, as pneumonia, scarlet fever, erysipelas, diphtheria, phthisis; and third, those in which it is of nearly constant occurrence, as typhoid, typhus, and measles."

A few years ago French wrote: "The reaction is most commonly found in the urine of typhoid fever from the fourth to the seventh day and thereafter. If the reaction does not occur the diagnosis is doubtful. If it be faint and occurring only for a few days, the prognosis is favorable. It is found only in such cases of pulmonary tuberculosis as are pursuing a rapidly fatal course. It is sometimes, but not often, found in measles, miliary tuberculosis, pyemia, scarlet fever, and erysipelas, but never in afebrile diseases, such as chlorosis, hydremia, diabetes, or in diseases of the brain, spinal cord, or kidneys."

Many authorities speak of the reaction almost exclusively in its relation to typhoid fever, as witness Simon: "If in a doubtful case the reaction is found between the fifth and thirteenth day of the disease, and not later than the twenty-second, it is presumptive evidence that the disease is typhoid fever; if the reaction is not found in the second or third week of a supposed case of typhoid fever, it is probable either that the case is very mild, or that the diagnosis is wrong."

Such statements as this, and many others which we have all read, are apt to convey the idea that the reaction is practically always indicative of typhoid fever, and when the reaction occurs in the course of investigation of a doubtful case, one might be led to consider the diagnosis clinched. I know a young man who, feeling poorly one spring, went to a doctor's office in Detroit for help.

The doctor, a very excellent man, and very proficient in laboratory methods, obtained the diazo reaction, and immediately diagnosed "walking typhoid," which, by the way, subsequent events proved that the patient did not have. He was instead suffering from a chronic poisoning from impure water.

Within the past few months I have found this reaction in the urine of eighteen non-febrile patients. It has been in that of five pregnant women—a condition not included in the classifications of either Ehrlich or French. I have found the reaction in one case of cold abscess, in a case of reflex nervous disorder caused by a prolapsus of both ovaries and tubes in the posterior cul-de-sac of Douglas, and in cases of business men suffering from nerve strain. One case of early locomotor ataxia presented a very strong reaction. (French excludes spinal cord diseases—see above.) The urine of a child of five years, apparently healthy but of slow growth, presented this reaction, as did that of three applicants for life insurance examination, all of whom passed. A man with acute gonorrhea gave the reaction, and also a convalescent from facial erysipelas. I obtained the reaction in the urine of a boy who had a long-continued appendicitis, with walled-off pus cavity. This boy had been treated for typhoid fever for two months, the doctor making the diagnosis because he found the reaction. It was this case which first called my attention to this subject, and determined me to prepare this paper. I was surprised to find the test being taken as an almost positive indication of typhoid fever.

These findings lead naturally to the question of the real diagnostic value of this reaction. Ehrlich never proposed it as a test for typhoid fever, but as an aid in diagnosis. He says: "In typhoid fever the reaction is of diagnostic value in one of two ways: first, the persistent

absence of this reaction in a disease that simulates a severe attack of typhoid fever speaks considerable, though not absolutely against the diagnosis; second, typhoid relapses or recurrences may be distinguished by this reaction from intercurrent lung affections. With a relapse or recurrence the reaction will return or increase, otherwise this is not the case."

Allen, of San Francisco, in a monograph on typhoid fever, says: "In the diagnosis of typhoid fever the diazo reaction, while present in a large percentage of cases, is found in so many other febrile conditions that its value is considerably diminished; yet taken in conjunction with other positive findings we may place some reliance on it."

Novy tells us: "It is met with as a rule in typhoid fever, therefore a certain diagnostic value is attached to it, but it occurs in various other conditions."

Dayton remarks that "Ehrlich's diazo reaction is merely of value as slightly confirmatory of other tests."

Von Jaksch believes that the test is always due to the presence of acetone, and he prefers to regard it as an uncertain indication of that body rather than anything else. This view is not held by others.

Caille says: "The reaction is supposed to be of value in the diagnosis of typhoid fever, but it may be absent in many cases."

Sahli: "The diazo reaction must be considered as a metabolic symptom of certain diseases which is not of diagnostic value in itself, but only when considered with other symptoms....A similar test may be obtained after the administration of opium, morphine, chrysarobin, naphthalin, heroin, dionin, tannin, alcohol in large quantities, phenol, cresol, creosote, and guiacol."

The diagnostic value of this reaction is still under question. It occurs in so

many and such varied conditions, and follows the administration of such drugs, that the elimination of these contributing influences must be made before a diagnosis could be based on its presence. My object in presenting this paper is not iconoclastic, but rather to stimulate thought and interest along this line of observation, which a study of the literature would seem to show has not received the attention it deserves. Another and stronger motive was to speak a word of caution against assigning to this test an importance which even its originator has not claimed for it.

The value of this test, as far as my observation and study goes, is that it indicates some peculiar impairment of the body metabolism, probably the proteid katabolism. It is generally understood that certain diseased conditions will produce this impaired metabolism, but certain others not so generally recognized, and even an apparently healthy state may produce this condition. I would therefore claim for the reaction the office of acting merely as a check upon other methods of known diagnostic value, and believe that persistent and systematic study will some day determine a more positive value.

Name	No.	diazo	urea	NaCl	SO <sub>3</sub>	bile	indican]	complaint.
Mrs. G.	1	pres't	1.5%	.....	.....	neg.	neg.	pregnant.
Mrs. F.	2	pres't	1.4%	.....	.....	neg.	neg.	pregnant
Mrs. K.	3	pres't	1.5%	.....	.....	neg.	neg.	pregnant
Mrs. T.	4	pres't	1.1%	8.44g	2.11g	tr.	neg.	pregnant
Mrs. W.	5	pres't	1.6%	.....	.....	neg.	neg.	pregnant
Mrs. H.	6	pres't	.9%	1.80g	.90g	tr.	neg. ]	neurasthenia
W. H. H.	7	pres't	1.0%	.....	.....	neg.	neg.	locomotor ataxia
T. A.	8	pres't	1.6%	.....	.....	neg.	Trace	cold abscess
A. H.	9	pres't	.....	.....	.....	pres't	neg.	convul. erysipelas
M. H.	10	pres't	.....	.....	.....	neg.	neg.	gonorrhea
S. B. H. ]	11	pres't	1.2%	.....	.....	.....	.....	life ins. exam.
Mrs. B.	12	pres't	.....	.....	.....	.....	.....	life ins. exam.
W. H. H.	13	pres't	1.2%	.....	.....	.....	.....	life ins. exam.
D. C. ]	14	pres't	1.4%	2.68g	.52g	pres.	neg.	slow growth child
C. S.	15	pres't	1.5%	.....	.....	tr.	neg.	appendicular absc.
A. E. H.	16	pres't	1.1%	.....	.....	neg.	neg.	nerve strain
T. K. ]	17	pres't	1.9%	2.7g	2.2g	neg.	neg.	nerve strain
J. H. ]	18	pres't	1.5%	2.2g	1.7g ]	pres.	neg.	nerve strain
E. C. H. ]	19	pres't	1.4%	10.67g	1.1g ]	tr.	neg. ]	nerve strain

## THE DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF GALL-BLADDER AND BILEDUCT DISEASES\*

FRANK B. WALKER, M. D.,  
Detroit.

The rational treatment for any disease depends fundamentally on, first, a correct diagnosis, and secondly, an understanding of the pathologic process. The care of patients affected with gallbladder or bileduct diseases is no exception to this rule. Indeed, as we get better acquainted with the characteristics of these diseases we are able to explain certain symptomatic diseases and institute a line of treatment conducive to recovery or relief.

Affections of the biliary tract are by no means rare. Statistics inform us that they occur much more frequently than we are now ready or even willing to believe. The commonly understood signs of these diseases are usually so slow in appearing that when they unmistakably manifest their presence pathologic changes of serious importance have already taken place and the road to recovery is more difficult and insecure.

Gallbladder and bileduct surgery has wonderfully cleared up the diagnosis and pathology of upper abdominal diseases. We should be able now to not only diagnose affections of the biliary tract early, but also in many cases locate the site of offending calculi and determine the character of infections or malignant disease. We should be able in the majority of cases to make a special diagnosis; that is, we should be able to form indications for and against operative treatment.

\*Read before the Michigan State Medical Society at the Saginaw meeting, May 15 and 16, 1907.

Statistics and postmortem findings have conclusively proven that gallstones may remain in an uninfected gallbladder for an indefinite period without exciting troublesome symptoms. But in some cases, and especially when set in motion or under the influence of infection, their presence becomes manifest. Nausea and occasional vomiting are present, and more or less uneasiness or severe pain is felt in the epigastric or right hypogastric region, radiating to the right shoulder or back. These symptoms often follow or are aggravated by a heavy meal and by certain articles of food, and are accompanied frequently by gas and acid eructations from the stomach, on account of which the diagnosis of gastric neuralgia or hyperacidity of the gastric juice is incorrectly made. There may be dyspnea and pain in the cardiac area suggesting so-called cardialgia. Again, the remitting fever accompanying movements of stones or septic infection of either the gallbladder or ducts, leads to the mistaken diagnosis of remittent fever.

In order to determine whether a gallbladder is responsible for these symptoms a physical examination should always be made. In doing this the examiner should stand on the right side of the recumbent patient, facing his legs, and palpate with the finger palms, not the tips, over the region of Robson's point. This spot is the midpoint between the ninth costal cartilage and the umbilicus. Tenderness exhibited in this region on deep inspiration is as signifi-

cant as the same sign about McBurney's point. Another posture of value in palpating the epigastric region is Gerster's position, in which the patient leans far forward and strongly flexes the thorax and lower limbs upon the abdomen. In this position of the patient the upper abdominal organs are pushed into relief and any tumefaction of them is more readily appreciated.

The passage of a stone into or through the bileducts is usually accompanied by a variety of symptoms, three of which are cardinal and diagnostic of the seat of trouble. They are sudden, severe pain at the stomach area of comparatively short duration, nausea and occasional vomiting with its abrupt disappearance and an almost immediate return to normal health, and sensitiveness at the gallbladder area. In addition to this diagnostic trio of symptoms, biliary colic is attended by fever and prostration, the gallbladder and liver may become enlarged, the feces clay-colored and mixed with calculi, the urine stained with bilirubin, and jaundice may supervene.

Pain is a variable symptom. It may be of a dull aching character or it may be most agonizing, comparable with ureteral colic and the severe cutting pains of childbirth. It is usually localized in the right hypochondriac region from which it may in severe forms extend widely over the abdomen or be referred to the right subscapular region or to the right side of the back at the level of the eleventh and twelfth dorsal vertebrae. During the siege of biliary colic the gallbladder is exquisitely tender to the palpating fingers, and even when the pain is of a dull aching character it is intensified by firm pressure over Robson's point.

Nausea and vomiting are prominent symptoms in gallstone colic and may persist even after the pain has subsided. In such cases there is strong probability

that a stone is impacted in the cystic duct or the small intestine.

The degree of fever due to septic infection of the ducts varies greatly. Occasionally it is preceded by a chill. In ordinary biliary colic the fever is intermittent in type, but in chronic cholangitis it is remittent.

In some instances prostration has been so marked as to cause difficulty in diagnosis. Death has been known to result from the agonizing pain of gall-stone colic. If the attacks be frequent the patient's general health may deteriorate from inability to recuperate.

Although the normal gallbladder extends beyond the free margin of the liver, it cannot be appreciably palpated even when distended with bile. When enlarged in acute pathologic conditions, and especially when a calculus obstructs the cystic duct, it may be felt as a smooth, pyriform body projecting below the right costal arch. On close examination it will be found to have respiratory and lateral mobility and to give a dull percussion sound continuous with that from the liver. In some cases the enlarged gallbladder will push linguiform processes of the liver ahead of it. So closely related are these linguiform processes to biliary disease that they are considered to be diagnostic of enlarged gallbladder.

Enlargement of the liver is relatively rare in pure cholecystitis. It is a frequent accompaniment of common or hepatic duct disease and is in a measure diagnostic. In the absence of urobilin and other bile pigments due to obstructive jaundice, an excess of finely divided fat and gas bubbles cause the feces to assume a clay color and to be very offensive.

In so-called "regular cholelithiasis," calculi may be detected in the feces within a week following the "successful attack." In making the examinations the feces may be diluted with a mild

carbolic acid solution and poured upon a gauze strainer. Some experience is needed to differentiate true biliary calculi from olive oil globules, fruit seeds, fecal concretions, and other solid constituents of the fecal evacuations.

Contrary to popular opinion, jaundice is not a common symptom of gallstones. When the hepatic or the common bile-duct becomes obstructed directly by gallstones, or indirectly by tumors, jaundice will result and its intensity will depend on the extent and completeness of the obstruction.

Infection of the biliary tract is to be taken for granted in the presence of offending gallstones—that is, in connection with a history of gallstones, and the nature and extent of the infection is to be determined from the constitutional symptoms and from the presence of a distended, painful and very tender gallbladder, or of an enlarged painful and tender liver. Fever, increased pulse rate, pain, distention of the gallbladder, and nausea or vomiting point to acute cholecystitis, the intensity of the symptoms indicating within limits the grade of inflammation and the virulence of the infection. Rapidly increasing severity of these symptoms, with spreading tenderness, distention and rigidity of the abdomen, anxious and drawn expression, would denote gangrene of the gallbladder with local or diffuse peritonitis. If septic peritonitis develop, perforation has probably occurred.

If the gallbladder remains distended, with slight constitutional symptoms, cholecystitis has resulted in a chronic form, with adhesions, cicatrization, and possible stenosis of the cystic duct. It should be remembered that jaundice attends neither acute nor chronic cholecystitis unless the distended gallbladder compresses the common or hepatic ducts.

If repeated chills, intermittent or remittent fever, sweating, jaundice, emaciation, and a tendency to hemorrhage

from mucous surfaces appear, and the liver be enlarged, tender and painful, it is likely that cholangitis exists.

When, following a long-standing cholelithiasis, a hard, irregular shaped tumor grows rapidly at the site of the gallbladder and is accompanied early by rapid emaciation and ascites and later by jaundice, acholic stools and fever, the diagnosis of carcinoma of the gallbladder is indicated.

If jaundice appears slowly and steadily deepens in the presence of a distended gallbladder and enlarged liver, if rapid emaciation and ascites develop, and colicky pain, fever, and enlarged spleen be absent, the site of the cancer is in the ducts.

If an attack of gallstone colic be unsuccessful, and the stone fails to pass, its new site is to be determined from the condition of the gallbladder and from the presence or absence of jaundice and acholic stools.

If the gallbladder be undistended and there be only pain and attacks of colic, the stones are probably located in the gallbladder. If, in addition to pain and colic, there be distention of the gallbladder, it is probable that the stone has become impacted in and obstructed the cystic duct. Jaundice may appear also when the distended gallbladder presses upon and obstructs the hepatic or common bileducts, or when cholangitis exists.

If the gallbladder be undistended, and in addition to the pain and colic, an increasing jaundice with clayey stools present, the stones are probably impacted in the hepatic or common bileducts. If jaundice be intermittent, and the color of the feces varies according to the presence and degree of jaundice, the stones probably act as ball valves in the common or hepatic duct.

In making a differential diagnosis of gallbladder and duct diseases, recourse may be had to gastric, urinal, and fecal

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analyses and to the antecedent history of the case. If the pain be intensified by eating and blood shows in the vomitus or feces, gastric or duodenal ulcer is suggested. If the pain radiates downward to the groin, thigh, or testicle, and there be hematuria and frequent or painful urination, the renal organs are probably involved. If the colicky pain be relieved by a cathartic or enema it is likely intestinal. If there be a history of working in lead, and a leadline appears on the gums, the diagnosis is evident. If a tumor appears in the right hypochondriac or lumbar region, its shape, location above or behind the colon, and the capability of being replaced into the loin, will decide its origin. Gallbladder disease is to be differentiated from acute appendicitis by the history of previous attacks of colic, by the mobility of the tumor with respiration and its proximity to the liver, and the presence or absence of fever and jaundice.

The differential diagnosis of cholelithiasis with jaundice due to occlusion of the common bileduct by stones, from jaundice due to compression of the ducts by a tumor is made according to Courvoisier's law. That law declares that in occlusion of the bileducts by stones the gallbladder is not distended, jaundice varies in intensity, the stools change in color, being brown at times, then white, the spleen is slightly enlarged and there is a history of colicky pain and intermittent fever. In compression of the duct the gallbladder is distended, jaundice deepens steadily, the stools are per-

sistently white, and there is an absence of colic, fever, and enlargement of the spleen.

The foregoing points in diagnosis based upon the subjective and objective symptoms and the physical and laboratory examinations, embrace the essence of our present knowledge of this subject, and will, if carefully applied, in the majority of cases lead to the selection of the appropriate line of treatment. In widely atypical and complicated cases, however, nothing short of exploratory incision will disclose the actual condition. The application of this method of diagnosis in gallbladder cases will depend on the gravity of the situation, its safety, and the expectancy of results, the same conditions that determine the propriety of exploratory incision for any abdominal disease. A wide distinction is made, however, between exploratory incision and exploratory puncture. The latter is mentioned only to be condemned.

Inasmuch as the principle of gallbladder and duct surgery is the principle of drainage and the removal of septic material and malignant growths, the bearing of diagnosis on the formation of indications for and against operative treatment is evident. The early diagnosis of gallstone disease may save a lifetime of invalidism. Seasonable diagnosis of a phlegmonous cholecystitis or stenosis of the common duct may avert perforation and restore a patient to safety. Wrong or tardy diagnoses of gallbladder and bileduct cases affect unfavorably from 5 to 10 per cent of the population.

#### Discussion.

**Dr. F. W. Robbins**, Detroit: Diagnosis in simple cases is quite a different matter from complicated and obscure cases. Cites a case of tumor in the cecal region, whose identity was uncertain, but which at operation proved to be due to a misplaced kidney and an elongated, adherent gallbladder.

**Dr. J. A. Attridge**, Detroit, mentioned a case of irritation of the urinary bladder, which was not explained until traced to latent gall-bladder disease.

**Dr. H. W. Yates**, Detroit: It is important to have before operation as correct idea of the con-

ditions as it is possible to attain by all means in one's power. In this way one is trained to better diagnosis, and also is able to conduct the operation more expeditiously and accurately.

**Dr. C. B. G. de Nancrede**, Ann Arbor: Ninety per cent of cases of gall-stones do not give the picture supposed to be typical. If one waits for the text-book symptom-complex, he will constantly miss cases of gall-stones. According to the experience in cases of common duct obstruction, it is seldom possible to predict when and how it will occur, and hence it is unwise in any given case to forecast exact conditions.

## INDIVIDUAL VIEWPOINTS IN MEDICINE\*

CHARLES B. STOCKWELL, M. D.,  
Port Huron.

In the work of our state and county medical societies there is a call for men from every point of the compass. The men from the north and south are not sufficient. The men from the east and west are needed as well. The mediæval man was a one-point-of-the-compass man, whose opinions called for nothing from the other points. His knowledge was a product arising from ignorance. To him all knowledge was limited to a brain domed by his own calvaria. Many of his descendants have come down to the present. In this era he is out of place. This is an age of give and take—an age when the whole compass should be "boxed" to get the greatest good out of the greatest number and for the greatest number.

As you well know, the medical men of this state to a large extent have begun the work of fixing, continuing, and enlarging the knowledge acquired at their Alma Maters. We have begun to turn county societies into schools of instruction and schools for postgraduate work. Here every physician should be a servant to his guild. In the role of a servant he is bound to be a worker, a teacher, aye, even a master. Does anyone, starting out even poor in advantages and with a limited education, doubt that he is fitted to convey information to his fellows? If so, let him remember that if he has an observant eye and just an ordinary, plodding, painstaking brain, he has a point of view on the earth's great compass card different from every other man.

\*Read before the Lapeer County Medical Society April 10, 1907.

Knowledge is a composite. It is a mass of units contributed by men with eyes backed with brains,—eyes with their thousand view points flashing back to that potential mother brain, the observations from which are born all the sciences and arts which today enrich the world. One idea may be the unit which gleams with the flash of a diamond. Another may present only the dull blackness of a block of coal, yet the heat and warmth contained in the one form of carbon will offset the brilliancy of the other. So with ideas, all are of value. No medical society is complete and effective which does not receive something of the strength and worth in ideas which every member possesses. If these are missing, there is a sensible loss in power. No machine has "go" in it which lacks bar, bolt, or wheel. An opinion may be faulty, but the discussion which leads to the discovery of fault or flaw, gives different points of view and so fixes what is true and valuable.

Perhaps some one may doubt as to all possessing mental values,—values which carry weight. Several years ago I met one of the wise men,—there are many,—a noted specialist of Great Britain, who asked for an hour of my time, I being but a few years removed from my college days, that he might get some points from me regarding his specialty. Deprecating the idea of enlightening one so great in his specialty, the wise one said, "Stop, I never converse with a medical man regarding my specialty without being taught things I need to know."

One point of view, even a thousand

points of view, can never give a comprehensive view of any great subject (like that of medicine) with all of its mysteries and enigmas. Perhaps you have read that scathing rebuke to the one-point-of-view-man in theology, in Sam Walter Foss's poem, "Odium Theologicum":

"They met and they talked where the cross roads meet,

Four men from the four winds come,  
And they talked of the horse, for they loved the theme,

And never a man was dumb.

And the man from the North loved the strength of the horse,

And the man from the East his pace,  
And the man from the South loved the speed of the horse,

And the man from the West his grace.

So these four men from the four winds come,

Each paused a space in his course,  
And smiled in the face of his fellow-man

And lovingly talked of the horse.

Then each man parted and went his way

As their different courses ran,  
And each man journeyed with peace in his heart

And loving his fellow-man.

They met the next year where the cross-roads meet,

Four men from the four winds come,  
And it chanced as they met that they talked of God,

And never a man was dumb.

One imaged God in the shape of a man,  
A spirit did one insist,

One said that Nature itself was God,

One said that He didn't exist.

But they lashed each other with tongues that stung,

That smote as with a rod;

Each glared in the face of his fellow-man,

And wrathfully talked of God.  
Then each man parted and went his way

As their different courses ran,  
And each man journeyed with war in his heart,

And hating his fellow-man.

The horse suits a one-point-of-view man in size. In a minute he can walk around him, In an hour he can know his gait, his speed, his disposition. But turn to the maker of the universe, who recognizes neither the beginning or ending of time, nor the bounds of space. Thought is lost and reason fades to nothing, yet arrogant ignorance balloons the self-centered mind and insists that one brain with one point of view is equal to the solving of the mightiest mysteries. As in theology, so in medicine we are dealing with a subject so deep that no plummet can fully fathom it, so lofty that no eye can fully penetrate its heights, yet for the discoverer and explorer the future holds wonderful revelations.

This work is not for one man, working in isolation or secrecy. It is the work of every man coming in from the four winds, working in harmony with every man, gathering with patience something from every point of view, some observation caught in humble every-day work, some bit of knowledge revealed to the painstaking mind,—all brought in to be contributed to the use of his fellow-workers.

Just because a man is barely out of his college doors does not mean that opportunities for important observations and the accumulation of rare knowledge will not come to him as well as to the man who has spanned many years of active medical practice. Let me cite a case in point. A young man read a thesis at the University of Michigan, at his graduation in 1858. The theories contained therein were quoted as authority for twenty-five years in lectures delivered at his Alma Mater. Within a

year after his graduation he was called to see a man in whose brain the breech-pin from a bursted gun had lodged. He removed it, and within a week had demonstrated the existence of tactile sensation within the cranium, a fact not previously known. Further, he was not willing, like the others present, to wait for the man to die; where a chance missile had gone without producing death, he did not fear to go. His action was followed by a discovery, and a life was preserved for many years. There are observations and deductions made by every man which are wanted. Give them to the medical profession, that it may be wiser. Give them to the world that it may be better in sanitation and in health. Some may object, because to the medical society comes the man with the insistent shrill note of the fife, or with the brass of the tuba or the boom of the bass drum. A band needs all of these instruments to render efficient music.

In our observations two opinions may not agree till they are scientifically compared. The rain in the North descends

in white crystals; the rain in the South in liquid globules. One looks at the phenomenon at a temperature below 33° Fahrenheit, the other at a temperature above that point. To the man in the East the sun rises from the Ocean; to the man in the West it sinks beyond the ocean's rim.

In the common storehouse to which we bring our gleanings, things apparently paradoxical are being worked out into their reasonable and true values.

Finally let our work be attended with enthusiasm and ambition. We should be like Billy Gulick whose ambition, starting out with the desire for and subsequent possession of a dog, led up, step by step, to a desire for the presidency.

In the words of Foss's poem:  
 "We all are Billy Gulicks, for  
 Full wide his tribe is spread,  
 You find a man who's satisfied,  
 You find a man who's dead.  
 And if you find a live man  
 Who for nothing further sighs,  
 Though in the pink-red bloom of health,  
 He's dead before he dies."

**The Average Length of Practice of the American Physician.**—The necrology department of the *Journal of the American Medical Association* is probably as complete as any such department can be made. In it were recorded 2,045 deaths of physicians in the United States and Canada in 1905. There is an estimated medical population of 215,000, hence the rate of mortality is 16.36, not differing much from previous years; 14.74 in 1902; 13.73 in 1903, and 17.14 in 1904. It is astonishing that death, so unexpected in the individual, is so regular and constant in the mass. The youngest doctor reported was 23; probably there were younger men who died, but being so new in their profession their deaths were not forwarded. The oldest was 104, a fairly ripe age for a nerve-racking profession. In practice the time varied from nothing to seventy-five years; there were five others who had practiced over sev-

enty years. The average length of practice is thirty-one years and one month, quite a remarkable length considering the fact that so many physicians are exposed to death, disease, exposure, and exhaustion constantly. The nerve racking character of medical practice is seen in the list of causes of death, for heart disease in various phases leads all other causes with 202 cases. Cerebral haemorrhage is second, with 153 deaths; pneumonia, 141; tuberculosis, 102; nephritis, 100; senile debility, 80; accidents, 72; suicides, 46; typhoid fever, 41; malignant disease, 34; septicaemia, 28; appendicitis, 27; etc. It is interesting to note the methods of suicide which show that no special difference exists when the thought of self-destruction occurs. The introduction of new men into the profession is still greater than the outgo to a considerable proportion.—*The Medical Times*.

**A CASE OF EMPYEMA WITH DIFFICULTIES.\***

BY FRANK B. FLORENTINE, M. D.

Saginaw.

Fred H., age 14, of healthy parents, of a family of four, including my patient, who, too, was formerly very healthy. On March 21, 1906, after an unusually severe course of lobar pneumonia, I found him in an extreme state of prostration, apparently in a dying condition,—emaciated, pale, sweaty, and somewhat livid, semi-comatose, with a very feeble and rapid pulse, and with intense dyspnea. On examination, I found his right pleural cavity filled with an effusion, compressing his right lung against the left, and displacing the heart. There was bulging of the chest wall, and shallow, widened, intercostal spaces, almost protruding in some places, and somewhat edematous. With an exploratory needle I obtained a thick, creamy, purulent effusion, which I subsequently found to contain pneumococci. Here my trouble—"difficulties"—commenced. After carefully explaining his serious condition to his parents, pointing out the necessity of an immediate relief of the pathological gathering, in order to save his life, I was nevertheless emphatically refused any form of operation, further than what I had already done with my exploratory needle. After prescribing a sponge bath, dry clothes, fresh air, strychnine, egg albumen and milk, I left the patient, in great danger. However, the next day his father came to my office and informed me that his son was about the same, and that they had changed their mind, and now wanted me

to treat the case as I saw fit. I immediately ordered the ambulance and sent him to St. Mary's Hospital.

Shortly after his arrival there, I aspirated his side and removed three and one-half pints of creamy pus, which greatly relieved him; and then he gradually improved in every way for about a week, under the usual care and treatment in such cases, until a reaccumulation of pus again disturbed his breathing and otherwise distressed him. On the 30th, nine days after the first tapping, I again removed three and a half pints of pus, which was followed by the usual relief and gradual improvement for a few days, but somewhat more marked at this time. However, on April 9 I again removed three pints with marked relief; and five days after, on the 14th, as I found him much improved generally, I concluded to operate on him more radically. Under full anesthesia I resected about an inch of the eighth rib, a little posterior to the mid-axillary line, and after making a small incision in the pleura, in order to bring about a gradual flow of the more liquid, thin effusion (which proved again to be a very large quantity, perhaps two or three quarts), I then enlarged my incision in order to drain out residual fibrinous masses, lumps, etc.; after thoroughly emptying the pleural cavity, I inserted two large-sized fenestrated drainage tubes, securely fastened by a large safety-pin, and covered the whole side with the usual dressing in such cases,—gauze, compress, etc., secured with a snug roller bandage.

\*Read before the Michigan State Medical Society at Saginaw, May 15, 16, 1907, and approved for publication by the Publication Committee.

On the 17th I dressed the wound for the first time since my radical operation. I found the drainage tubes removed and the wound discharging freely, but notwithstanding the patient was doing fairly well, he was quite delirious. I put in new tubes and dressed the wound as before, but on two subsequent dressings, finding again the tubes removed, I concluded to apply an especial bandage, practically the same, with the exception of covering the whole dressing with a large sheet of oil-silk, secured with long, wide, adhesive strips; and then the whole covered with the usual roller-bandage in the form of a figure eight. After that I had no further trouble about his removing the tubes or interfering with the dressing in any way; he then

gradually improved, without any drawback, until I discharged him perfectly well, June 8. He left the hospital May 9 with strict instruction to live an altogether outdoor life, with the exception of taking his meals and sleeping inside the house. He was also instructed to take deep inspirations several times a day while outside; in fact, I actually saw that these instructions were carried out, as I think it most imperative in these cases.

Résumé:—I believe in early operation, always preceded by aspiration in these cases; in resection of rib or ribs to other methods; in large drainage tubes. However, I do not believe in irrigation, except in cases of fetid discharge.

## WHEREIN CAN THE TRAINED SPECIALIST AID THE GENERAL PRACTITIONER?\*

EDWARD J. BERNSTEIN, M. D.  
Kalamazoo.

At first blush, it would seem the veriest absurdity to ask this question, but an almost daily experience in the lack of appreciation of the wide gulf separating the examination by the scientifically trained man as opposed to the inefficient, as an aid to establish a diagnosis of disease, even remote from local causes, emphasizes the need of an occasional reminder.

It seems unnecessary at this late day to tell you that many intractable headaches are due to errors of refraction, but it is far from redundant to emphasize the inefficiency of an untrained man

whose sole attraction to refraction is the knowledge that jewelry and spectacles pay the vendor a profit beyond those of ordinary merchandise, who gives up peddling machines or patent medicines or leaves a dry goods counter with no further training than is obtained by a correspondence school or a six weeks' course at some so-called "school of optometry," after which thorough grounding he graduates as a "doctor" of optics. Such a one is utterly unable to appreciate the gravity of the task set before him and like the proverbial fool "rushes in where angels fear to tread."

Would any merchant entrust a set of books to a graduate of a business col-

\*Read before the Michigan State Medical Society at the Saginaw meeting, May 15, 16, 1907.

lege after a six months' course? Do you believe that an apothecary, with his four years' course in a recognized school of pharmacy, combined with a four years' training in a drug store, is capable of diagnosis or treatment of disease? Yet this is exactly what the spectacle dealer essays to do. Almost the same restriction applies to the six weeks' course medical specialist.

Their position reminds one of the doggerel of the Roosevelt Bears:

"We're freshmen now and green at that,  
We're here to study right off the bat;  
We learn new things at a lively rate  
And by six o'clock we'll graduate."

First of all, what should be demanded of one who assumes the role of an oculist? To my way of thinking, he should be a graduate of medicine and have had either one or two years' experience as a resident in a first-class general hospital or some years' general practice; added to this he should have at least one or two years' special training, both here and abroad. It is only after contact with the thoroughly trained men we meet on the other side that one sees how much is required of one and how little he knows. The oculist must stand in the capacity of a consultant and no one can be too thoroughly trained for such.

I am aware that many men refer to the oculist only in those very apparent cases of grave disorders of the eyes, which do not yield to boric acid solutions, or where loss of vision almost sends the patient, of his own volition, to the specialist. Some physicians think that in those patients who complain of headache or minor defect in vision the spectacle dealer does equally as well, and thus saves the patient the fee. Just how short-sighted such economy is, I shall attempt to portray. I shall not speak of such symptoms which from

their nature call, even from the most careless, for the specialist's care, *but confine my remarks to cases in which superficial examination will often show almost perfect central vision both for near and far.*

Do you recall, from your student days at the medical school, that 20/20 vision,—the ordinary standard,—is compatible with such conditions as Choked Disc—proclaiming loudly that some serious intracranial disease is present, or Retinitis Pigmentosa, a disease gradual in its onset and progressively leading to complete loss of the whole range of vision, with atrophy of the optic nerve? That chronic glaucoma may still show excellent central vision for a long time, yet absolute blindness is the ultimate goal unless checked by appropriate treatment, either by continual use of eserine, iridectomy, sclerotomy, or resection of the first cervical ganglion of the sympathetic? Do you not remember, also, Disseminated Choroiditis may likewise be present and yet the same condition as to sight be present? That severe Retinal Hemorrhages may be compatible with fairly good central sight? How is it possible for the untrained man to recognize these? Unless you hold that a superficial man can in six weeks accomplish what the well trained can scarcely in six years!

The question of the giving of glasses is not the simple thing that most medical men believe. The eye is not a camera obscura requiring a definite lens and a definite distance to focus light upon the sensitive screen; it is a living organ as incapable of mathematic precision as any other organ of the body. Nature does not deal in geometry in the human frame; it demands that every consideration be given to personal idiosyncrasy, to pathological conditions elsewhere or merely reflected in organs of special sense. The very best men are far from absolutely sure in their re-

fraction; how much less must be those less well-grounded?

At this point let me reiterate a conviction of the result of fifteen years' special work, and that is that the estimation of refraction without the use of a mydriatic in those under fifty years of age is more or less haphazard. I have never attempted this without after-regrets. Furthermore, it is an utterly fallacious statement of the spectacle dealer, sometimes finding an echo among doctors, that its use under skilled care is likely to have untoward results. Certainly I have never seen them, though I have seen one or two cases of systemic poisoning in my own practice and know of two others in the practice of a colleague, but both of these were from an impure drug, and had no permanent ill effect. Without its use many pathological conditions are likely to escape notice, and one should always know the absolute or static refraction of his cases.

Quite aside from the physical side of refraction comes the subtle question of the condition of binocular fixation, depending upon proper development of fusion centres and properly acting external muscles. That this is not a simple question needs only a reference to present day ophthalmic literature to show one how the best minds are still at sea in their attempt to grapple with this serious question. You all know how a few years ago many were sure that the solution lay in graduated tenotomy; this in turn gave way to other muscle operation, to prism exercise, wearing of prisms, etc. And the goal is not yet in sight. In short, this question is one of the burning ones, occupying the best thought of the best thinkers. Is it at all possible that a six weeks man can even appreciate the importance of this question?

Approaching now the question of the strictly medical side, permit me to relate to you a series of cases out of my

own experience in a not very large practice in a comparatively few months. I am only referring now to cases in which more or less perfect central vision was present.

Two cases of Retinitis Pigmentosa. Both had been wearing glasses for their trouble, given by so-called graduate opticians; they came to me only after great damage had been done. True, no one can cure this disorder, but much can be done to guide them and set them on the proper track.

Two cases of Choked Disc. One proved to be a case of cerebral new growth and the other beginning Tuber-cular Meningitis.

Several cases of Syphilitic Endarteritis of retinal vessels, in which the diagnosis of late manifestations of the primary trouble could only be made out on painstaking ophthalmoscopic investigation.

One case of Diabetes Mellitus, with beginning Diabetic Retinitis, diagnosed by the background alone. The patient had not consulted any medical man for this till sight failed for reading, though he had still good distant sight.

Two cases of nephritis in young children before advent of the typical pathological appearance of the retina. The attention of the medical advisor being called to this lesion, the children were early placed upon appropriate treatment.

One case of frank Albuminuric Retinitis, pointing to Interstitial Nephritis. This man had a good central vision and was attending to his duty as a book-keeper. I was able to successfully demonstrate to his family doctor his serious condition and told him that the patient had but a short while to live,—less than 18 months. The patient died within 6 months. At first his doctor disagreed totally in my diagnosis, for he had examined the urine carefully two or three times; it was only after I insisted on my point and that it was necessary to

examine it not two or three times, but a dozen times if need be, that we finally agreed that my diagnosis was correct.

Four cases of Tabes Dorsalis. You will recall that the ocular symptoms of this dreadful disease are often the very first to appear, the irregular pupillary reaction, the insufficiency of some of the external muscles, the beginning subtle changes in the disc, point at once to the trained oculist the nature of the trouble.

Here let me report an interesting case in the practice of W. Uthoff (Klinik at Breslau) which I report from the abstract in the current number of "*Ophthalmology*."

A man, aged 40, complained for two years of pressure in the head, vertigo, weakness, palpitations of the heart. Face, lips, mucous membranes and upper and lower limbs quite cyanotic. His vision was normal, but from the fundus a diagnosis of Polycythemia was made, which led to a corroborative test of the blood. Blood examination showed the number of red corpuscles very much increased, ten to twelve millions in 1 c. mm. and Sp. Gr. increased. Albuminuria with hyaline cylinders, spleen enlarged, arteries high tension and hypertrophy of left ventricle. The whole quantity of blood increased to a regular plethora. Patient was greatly relieved by copious venesection.

In the diagnosis of Insular Sclerosis, Edw. Muller (*Neur. Centr.*, July, 1905) says that a peculiar affection of the optic nerve, consisting of a simple atrophic discoloration of the temporal side of the papilla, is one of the most certain and most important signs of multiple sclerosis.

Often we are able to make the diagnosis of serious cardiac disease, such as insufficiency or stenosis of the aorta or mitral valve, or endocarditis, simply from the intraocular findings.

Again let me call to your minds what you may have forgotten, and that is that

Chronic Glaucoma may be perfectly compatible with excellent central vision, and it is only when the accurate taking of the field of vision, in connection with the ophthalmoscopic picture, is correctly interpreted that we can make a diagnosis and thus save sight. It is a frequent occurrence to have the inefficient misinterpret the perfectly physiological cupping of the nerve head for Glaucoma. It is the happy function of the conscientious oculist to save the patient the worse than useless misery and unhappiness of a needless operation.

Anemia, and even leukemia, are oftentimes first diagnosticated by the oculist, only to be corroborated by the blood examination. Among the earliest signs of Graves' disease are the ocular lesions, more especially the swelling of the upper lid as pointed out by Gifford, of Omaha.

Possibly one of the greatest triumphs of the ophthalmoscope is the diagnosis of cerebral tumors. Due to the initiative of Sir Victor Horsley and followed by a number of men in America and on the continent, a large number of cases of brain tumors have been successfully operated upon. As a result of his work, a number of cases of beginning descending optic neuritis, which almost invariably lead to complete optic atrophy and consequent blindness have been saved by opening the dura. He reported quite a list at the last meeting of the British Medical Association, which met at Toronto last summer. In this country Spiller and Frazer have done like excellent work.

In a recent number of the *Med. Klinik*, there appears an article by W. Seiffer upon operable tumors of the cerebellum, in which he makes the point that operable cases of this region are accompanied by choked disc and much headache, while the inoperative ones cause spastic hemiparesis, with exaggeration of reflexes and Babinski's sign, also alternating hemiplegia, i. e., paralysis of

one or more cranial nerves on one side and the extremities on the other. The posterior fossa cases have frequently a total and permanent ophthalmoplegia, which is not total with cerebellar tumors, bilateral spastic paresis of the extremities (seldom in cerebellar tumors), eventually hemitremor and hemianesthesia.

Spitzer regards conjugate deviation of head and eyes toward the sound side as the chief sign of an affection of the pons.

Inasmuch as such excellent results are now obtained by surgical procedure following early diagnosis by ophthalmoscopic findings, it may prove interesting to quote the following:

Krause, Fedor, Berlin (Seventy-eighth Congress of German Naturalists and Physicians, 1906. *Deutsche Medizinische Wochenschrift*, 1906, No. 49, p. 2011), cured a man, aged 35, by extirpation of a tumor of the occipital lobe in two stages, with disappearance of hemianopia.

Schultze, Bonn, gave the following resume: Out of 97 brain tumors, 19 were operated upon, but only one case, a tumor of the cerebellum, was cured and remained so for several years. In one case considerable improvement was obtained by puncture of the ventricles, according to Neisser, so that papillitis, intense amblyopia and headache subsided for three-quarters of a year, when the patient died. In a few cases the afflictions were relieved for several months by palliative trephining.

Oppenheim, H., Berlin: Since 1903, 27 of his cases were operated on by a number of surgeons. Three (11 per cent.) were cured, 6 (22.2 per cent.) temporarily improved, 15 (55.5 per cent.) died, the palliative trephining in 3 gave uncertain results.

In 23 out of the 27 cases his general and local diagnoses were correct. According to his experience, out of 10 or 9 correctly diagnosed cases, carefully selected for surgical treatment, only one has any prospects of perfect recovery. The doctrine of von Bergmann, that brain surgery is a surgery of the central gyri has lost its value by recent experiences. None of Oppenheim's cured cases belonged in this category.

SAENGER, Hamburg, spoke on his experience in 19 cases of palliative trephining. In 2, results

were not attained until the openings were enlarged and more cerebrospinal fluid let out. In 2, it was unsuccessful, in 1 it was immediately followed by stupor and death. In all others the relief was evident: headache, vomiting, convulsions and other symptoms of cerebral pressure, as papillitis, abated and subsided entirely after a few days in some of the cases.

The commencement of impairment of vision is the time for operating. If it is done later, atrophy of the optic nerve is liable to occur. The part of the skull over the probable site of the tumor is to be trephined. If no localized diagnosis is possible the right parietal region is to be selected, as from there the least damage is to be expected. Lumbar and ventricular punctures are not nearly as effectual as trephining the skull.

SAENGER sums up: Palliative trephining of the skull, performed by an experienced surgeon, today is a very beneficial operation, almost without danger, and is to be recommended in every case of inoperable brain tumor to relieve the sufferings of the patient and especially to save him from threatening blindness.

NONNE, Hamburg, warns against lumbar puncture in tumors of the brain.

An important and not infrequent function of the oculist is to make the diagnosis of toxemia, from its various causes, either Tobacco, Alcohol (Ethyl or Methyl), Quinine, or other poisons, not forgetting the well-known auto-intoxications from the intestinal tract. Do not imagine this latter is an infrequent occurrence; dozens of cases referred for glasses, which would have gotten them and with no good therefrom, except the financial gain of the dealer, have been set on the right path through the family doctor, guided by the reliable oculist.

In speaking of tobacco amblyopia I should like to go on record as never having seen a case due to cigarette smoking, and this after a long service in the clinics at Vienna, Paris, Berlin, and Moorfield (London). I am especially anxious to emphasize this fact, as so much has been said of the evil of cigarette smoking. It is an established fact that cigarettes are the mildest form of tobacco. There is no doubt that their

use by adolescents is pernicious, but I can find no authentic case on record where their rational use in the mature individual has been cause of injury. I speak of use, not abuse. Even eating may be abused.

Trichinosis and cysticercus are often first seen by the oculist. Diseases of the liver, cirrhosis, etc., are often accompanied by hemeralopia, concentric delimitation of the fields of vision, color-blindness, icterus of the sclera.

From the findings of the ophthalmoscope even disease of the sexual organs may be diagnosed. That there is a distinct relation between the uterus and the eye needs but to be mentioned to recall that excellent work on Uterus und

Auge by Herman Cohn, of Breslau.

Without burdening you with a more lengthy disquisition upon a question which tempts one unduly, I may say in conclusion that there is hardly a disease of the body from measles and mumps, which, by the way, bring many serious eye complications in their train, to syphilis and tuberculosis, which have not their well-known eye symptoms.

Can he who only looks through the sight-hole of the ophthalmoscope, or has not the most thorough training be expected to fulfill the high standard which should be that of a real help to his fellow practitioners? Is it not another proof, if any were needed, that whatever is worth doing is only worth doing well?

**Styes.**—Styes occur at all ages, but they are more common in children and young adults, and often appear in crops. As a rule, the patient is out of health, and suffers from constipation, acne spots, or errors of refraction, such as hypermetropia or hypermetropic astigmatism. Until suppuration actually occurs, hot boric acid fomentations should be used, and the patient should be purged. When suppuration has occurred, the eyelash, which is usually in the center of the yellow area where the pus is pointing, should be pulled out, and then, if necessary, the swelling should be incised, and again hot boric acid fomentations applied. Syrupus ferri phosphatis, in drachm doses, should be given twice or three times daily after food. Calcium sulphide, in doses varying from  $\frac{1}{8}$  to  $\frac{1}{2}$  a grain for an adult, given twice daily, has been recommended in cases of recurrent styes. When the more acute inflammatory symptoms have disappeared, the following ointment may be prescribed:

Unguenti hydrargyri oxidi flavi.....pt. j  
Petrolati .....pt. ij  
Ft. ung.

A small piece of the ointment to be applied to the margins of the eyelids with a fine camel hair brush night and morning. All errors of refraction must be corrected by the use of appropriate glasses. A generous diet, plenty of open-air exercise, and, if possible, a change of air are also indicated.—*The Practitioner*, March, 1907.

**Pruritus Ani.**—Drueck says that when the pruritus is due to proctitis, hemorrhoids, fissure, ulceration, fistula, prolapse, or polypus, and the patient refuses to submit to surgical treatment, or in senile, debilitated, or hemorrhagic subjects, much relief may be given by the use of the following:

Calomel .....	gr. 30
Menthol .....	gr. 10 to 20
Vaseline .....	ʒ 1

**Sign.**—Apply after each bowel movement, bathing the surface carefully, and sopping it dry.

For eczema of the anus he employs:

Picis liquidæ .....	.5iv
Ung. belladonna .....	.5ii
Ac. carbolici .....	m.x
Adeps lanæ .....	.5 ii

Bathe the parts repeatedly in water as hot as can be borne, and in green soap, to remove the thickened scales, and to deplete the local circulation. In exaggerated cases, a solution of caustic potash, five grains to the ounce, may be used. A cloth may be used to sop the hot water on the parts, but do not allow any rubbing.—*Chicago Medical Recorder*.

## The Journal of the Michigan State Medical Society

All communications relative to exchanges, books for review, manuscripts, advertising and subscriptions should be addressed to B. R. Schenck, M. D., Editor, 502 Washington Arcade, Detroit, Mich.

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NOVEMBER

### Editorial

**Two factors are retarding the progress of medicine in Detroit.**—One is the lack of a reference library and the other is the lack of a large free hospital, conducted by a limited staff. Cities which are of the greatest influence in the development of medicine possess both of these requisites. Philadelphia, Baltimore, Boston, New York and Chicago, for example, have enriched our literature and moulded our progress; their contributions have been and will continue to be conspicuous, because their physicians have great opportunities for the study of cases that pour into large free hospitals; the library enables them to direct their work by the light of previous authorities, and the hospital laboratories offer facilities for real scientific data.

As mentioned in these columns in a previous issue, certain kinds of medical essays are of superior value. Those which record experimental and investigative work add new knowledge to our store; those which are analytical, critical, or statistical, confirm or modify pre-existing ideas. The medical literature coming from the cities cited above teems with valuable articles of these varieties, because their authors have extensive public clinics, whose material can be utilized at will. It is not so easy in private work; the thousand and one points of delicacy that arise in dealing

with private patients preclude the routine which is so necessary for thorough reports. In short, the material in private hospitals is available only in part, and that with difficulty. Occasionally, after much labor and time, a series of cases is observed and reported; rarely a bit of investigative work is carried out, despite the dearth of facilities; sometimes an unusual case incites a study of similar ones in literature, but at what an expense of time, money, and travel, in order to consult the necessary references!

Few men have large enough private practices to afford material for extensive contributions to literature; those few have, first, little time for the necessary labor, and second, small facilities in the scurry of house-to-house visits, or the manifold systems (which is lack of system) prevailing in private hospitals. The very first necessity in collective, analytical, or critical essays is complete records. How many physicians in Detroit possess such, and what private hospital can show record-files available for study?

It is a pleasure to acknowledge the few valuable papers that have proceeded from Michigan's greatest city. The number is increasing, because more and more men are willing to override the obstacles besetting their paths. But in their progress they make matters no easier; no move is made to remedy the situation; each man travels the same rough road of his predecessor. The veterans are content with the ways they have always known; the recruit is powerless, no matter how dissatisfied, because to complain is to criticize, and to criticize is fatal.

It has been said that on the map of medical literature Detroit does not exist. This is an exaggerated criticism, yet where there is so much smoke there must be some fire, and there is enough truth in the reproach to arouse sombre reflection. It is true that there is no library, and this is a grave defect, but so easily remediable that it is a pity no

action is taken. It is also true that hospital records are next to useless for purposes of medical research, but this is a defect common to private hospitals. Even this is susceptible to improvement. It is again true that there is no large free clinic, in sole charge of regular physicians, subject to the routine of modern superintendence. This is a factor most difficult to change, because it so largely depends upon the laity. Yet the initiative must come from physicians. Patient and unremitting repetition, with the proof of our hospital inadequacy, might at least produce some effect. Seldom is a gift given until it is wanted. Might it not be wise, first to want, and then to let that want be known?



**The Keeley "Cure."**—Although we do not hear as much these days of the "gold cure" as formerly, a recent exposure of this colossal fake is not without interest. A pamphlet has been sent us, by whom it does not appear, giving in full the opinion of Judge Cochran of the United States Circuit Court of Appeals in the case of the *Memphis Keeley Institute*, appellants, vs. *The Leslie E. Keeley Company*, appellee.

From this opinion it appears that the Memphis concern had been enjoined by the original Keeley Company from claiming that it had a right to use the Keeley remedies, and the contract between the two had been cancelled. This decision had been appealed by the Memphis Institute on the ground that the Keel Company has built up and maintained its business by fraudulent representations; did not, in fact, come into court "with clean hands," and therefore is not entitled to the protection which had been granted it by the lower court. The higher court maintained that there was abundant evidence to prove that the Keeley business obtained its start and has reached its eminence by gross mis-

representations and that a company thus preying upon the public should not be protected in its frauds by the court. For these reasons, the appeal was decided in favor of the Memphis Institute.

The evidence showed conclusively that these remedies for the liquor, opium and tobacco habits are advertised as the "Double Chloride of Gold Cure," and that the company also has a remedy for neurasthenia known as "Gold Neurotine." To make the claim that these medicines contain gold more impressive, the labels are in gold and contain the words: "Gold cure for opium habit, gold cure for drunkenness, gold cure for tobacco habit"—all in gold. It is also stated on the labels: "Gold is especially beneficial in its action on the mental forces. It gives the patient courage, hope and renewed will power; and is the only medical agent that will effectually and forever relieve all craving or necessity for alcohol in any form. The remedy can in no way act injuriously on the patient." Quotations are also made from the literature sent out by the company, showing that the statement that the remedies contain gold is again and again made.

The evidence showed, as every physician knows, that there is no such salt as the "double chloride of gold," and furthermore that there is no gold in any form whatsoever in any of the so-called remedies.

Interesting light was thrown on the formation of the original Keeley Company by a witness, one F. B. Hargraves. Before connecting himself with Leslie E. Keeley, Hargraves had been a preacher in the Wesleyan Methodist Church in England and then a lawyer. This is another instance of the statement which Dr. McCormack made in his address last fall; to the effect that many of the quack doctors have previously been quack preachers. From the evidence of this man Hargraves, it appears that in 1880,

both he and Keeley were residing in Dwight, Ill. Independently they saw some newspaper reference to a cure for drunkenness and decided to try it on one Pat Conafry, saloonkeeper of that place. Pat took the stuff and in about a week lost his desire for whiskey. However, he made strenuous efforts to drink again and "one Sunday got a drink to stick and became gloriously drunk," after which he would take the medicine no more. This test was sufficient for Hargraves, who formed a partnership with Keeley. This was the origin of the gold cure, the company being known as that of "Leslie E. Keeley, M. D." The cure was then tried with good effect on Major Campbell, appropriately of Kentucky, and he came into the firm. In 1881, a company with the same name was formed between Keeley, Hargraves, J. R. Oughton, a drug clerk, Major C. J. Judd and Fr. James Halpin, a catholic priest, of Dwight. Keeley did not appear personally and would say, "I am the big spider in the back office; always throw a little mystery around me; keep me in the background." The drug clerk was the manufacturer and Hargraves the advertiser.

Hargraves further testified that he knew the formula and that the remedies contained no gold. Gold had been used but once. The third patient treated, a sewing machine agent, was given chloride of gold and sodium in pill form. It nearly killed the man and was never afterwards employed. Some other remedy was hit upon, but they never gave up the name, "gold cure." Keeley claimed that it sounded well and justified its use by saying that there is "gold in everything, gold in sea water, in mud—in everything. There is a trace of gold in it and that is enough." In the safe at the laboratory they kept a few drams of gold chloride and sodium chloride

and these were shown to visitors as samples of the ingredients of the sterling remedies. Hargraves went on to relate that on one occasion gold was put into a certain number of bottles, the latter being arranged so that they would be selected by the agent of a Chicago chemist, who had been engaged to make an analysis. This gold was, of course, found and the certificate of the chemist was widely used in advertising.

The testimony used to controvert that of Hargraves seemed unconvincing to Judge Cochran, justly so as appears from his review of it.

The Keeley Company held further that even if the remedies did not contain gold, this is no reason why they should not be protected. In denying their right to protection, the Judge quotes the well-known case of the Fig Syrup Company against Stearns restraining them from using the name "Fig Syrup." The injunction was not granted, because it was shown that the original company fraudulently represented to the public that the chief ingredient was the syrup of figs, although there was but a trace of the latter, the main ingredient being senna. Judge Taft in denying the injunction said:

"This is a fraud upon the public. It is true, it may be a harmless humbug to palm off upon the public as syrup of figs what is syrup of senna, but it is nevertheless of such a character that a court of equity will not encourage it by extending any relief to the person who seeks to protect a business which has grown out of and is dependent upon such deceit."

In no branch of business will this principle of refusal to protect a fraudulent article be more often applicable than in the manufacture of patent medicines. There has been at least one other decision along the same line and it is to be hoped that more will follow.

**Should the State Society meet in the fall?**—For some time there has been a discussion among the officers of the American Medical Association and those of the various state organizations, regarding the advisability of changing the date of the state meetings from the spring to the autumn.

As it is now arranged, the dates of our state society and the national society are often so close together that it is impossible for many members to attend both meetings. It is believed by some that the members would feel more like attending the state meeting if held in October or early November than during the days when the "spring fever" is apt to take hold of us. Moreover, in the spring many of our most talented men are engaged in writing papers for one or another of the national societies and are persuaded, with difficulty, to prepare a paper for our state meeting.

In his report to the House of Delegates at the last meeting of the American Medical Association Dr. McCormack says:

"For the reason set forth, and for others still more important, it is again urged that all the state associations which have not yet done so, seriously consider the advantages to be gained by holding their meetings in the fall, as nearly as may be, midway between the meetings of this association. A number of state associations have already acted favorably on this suggestion and the advantages of the arrangement are evident. With the state and national meetings coming within a few weeks of each other, as is often unavoidable when both are held in the spring, many of our best members are forced to miss both of them. In addition, and probably more important, half of the delegates from such states begin active service at once without the time for such inquiry and study as would make them most useful to their constituents and to the cause of organization."

The decision of the question so far as Michigan is concerned, it would seem, should rest on the question as to whether or not a majority of the members are

less engaged with practice in the fall and so more free to attend an autumn meeting. An expression of opinion from different parts of the state is requested for our correspondence department.



**Copies of the "Great American Fraud" pamphlet,** a reprint of the famous articles in *Collier's Weekly*, which were compiled by Mr. Adams, after a vast amount of personal investigation, should be in the hands of every physician. It is gratifying to learn that the Jackson County Society has purchased a sufficient number to supply not only every member, but every physician in the county as well.

The edition, now being supplied at a nominal cost (\$2.00 for 50 copies) by the American Medical Association, includes the two series, the first on "The Nostrum Evil" and the second on "Quacks and Quackery." They form a relentless exposé of the ridiculous claims of the patent medicine man and the miracle workers, and can with propriety be put into the hands of his patients by the physician. The secretary of each county should supply the members on his list, with one or more copies.



**A new County Society has been organized** in Antrim County. This county was formerly affiliated with Charlevoix under the name Charlevoix-Antrim. Interest seems to have lagged in Charlevoix, for what reason we do not know, and the physicians of Antrim have therefore formed a separate society.

The charter members, who are heartily welcomed into the state society, are Drs. J. C. Gauntlett and Charles Long, of Elk Rapids; E. R. Close and William Evans, of Bellaire; R. E. L. Gibson and F. P. Ramsey, of Central Lake; T. S. Hoag, of Alden; H. A. Stewart, of Alba; L. L. Willoughby, of Mancelona.

Dr. Gauntlett has been elected president and Dr. Willoughby secretary.

## The War on Tuberculosis

In this department, which will appear from time to time, brief and suggestive notes will be made touching on the economic side of the combat against tuberculosis.

During August there were reported 2,735 deaths from all causes in the state. Of these 178 were from tuberculosis, or 6 per cent of the total number.

The International Congress on Tuberculosis will meet in Washington, September 21st to October 12th, 1908. In an open letter, Dr. John S. Fulton, the secretary-general, says: "The American Committee is sensible of a great responsibility in the organization of the International Congress, and asks the aid of all those who are interested in the anti-tuberculosis movement, in order that the coming Congress may merit the honor conferred on our country by the choice of Washington as a meeting place.

The State Committee for Michigan consists of Dr. George Dock, Ann Arbor; Dr. C. G. Jennings, Detroit; Dr. Collins H. Johnston, Grand Rapids; Dr. F. W. Shumway, Lansing; Dr. V. C. Vaughan, Ann Arbor and Dr. A. S. Warthin, Ann Arbor.

According to Dr. Tucker Wisc, of Montreal, tuberculous affections of birds are transmissible to the human subject, and he fortifies his opinion by brief accounts of 33 cases in which infection appeared from pet birds. Caged birds, says Wisc, such as canaries, pigeons and parrots, lead a life calculated to render them an easy prey to tuberculosis, and the way in which they are managed in the household conduces powerfully to their spreading the infection to the members of the family. The bird's excrement is disseminated by the fluttering of its wings, and particles of it are carried by flies to articles of food. How widespread is the danger of the conveyance of disease from birds to man may be judged of by the fact that in England 400,000 canary birds are sold annually.—*New York Med. Jour.*

The Iowa Society for the Study and Prevention of Tuberculosis has discovered that tuberculosis is far more prevalent in the dairy district than in Southern Iowa. This is held to support the theory that contact with dairy cows is a fecund source of tuberculosis in man. The society will report findings to the legislature next session and

solicit an appropriation for stamping out tuberculosis in the dairy herds of the state.—*Med. Record.*

Dr. John Lowman, of Cleveland, says in a recent magazine article very pertinently: "The transition of a child from a free, unrestrained life in the open air to the atmosphere of the usual school-room has a bad general influence on health, it is stated, and this greatly adds to the danger of infection from tuberculosis. More fresh air in the school-rooms, more time spent in the open air, increased teaching in hygiene and elementary instruction in tuberculosis as a part of the curriculum, are among the plans discussed for preventing the further spread of tuberculosis in the schools."

Dr. Pollock, of New Orleans, was sentenced on September 12 to pay a fine of twenty-five dollars or thirty days' imprisonment for failing to report a case of tuberculosis. The case has attracted considerable attention, especially in medical circles, as Dr. Pollock is the first physician in the State of Louisiana to be punished for violation of this law. Many attempts have been made by the State and City Boards of Health to induce practitioners to report tuberculosis promptly, but these efforts did not meet with anything like general success, doctors being, as a rule, inclined to yield to the objections of their patients to publicity.—*Cincinnati Lancet-Clinic.*

The attention of the whole world has been called to the State of Pennsylvania because of her appropriation of \$1,000,000 to the Department of Health for the relief of the poor who are suffering from tuberculosis. This \$1,000,000 appropriation includes the care of those incipient cases whose domestic responsibilities will not permit them to go to a sanatorium, the establishing of sanatoria for early cases, and also infirmaries for advanced cases of tuberculosis.—*Public Health.*

The Michigan State Board of Health will prepare an exhibit for the International Congress on Tuberculosis to be held at Washington, D. C., September-October, 1908; and the mayors of cities, presidents of villages, and other local health officials are cordially invited to take part in this exhibit. Special or local statistics which they may have to further the study of tuberculosis will be of interest to the State Department.

That the physician is beginning to be recognized as an instructor of the people at large.

teaching how diseases are caused and communicated, and what are the means of prevention, is becoming more apparent every day. President Eliot, of Harvard, believes that this "new function" of the physician, which has been brought into strong light by recent events, is sure to be amplified and made more effective in the near future. In his address at the dedication of his new medical school (printed in "Science," Oct. 12, 1906), he said:

"The recent campaign against tuberculosis is a good illustration of this new function of the profession. To discharge it well requires in medical men the power of interesting exposition, with telling illustration and moving exhortation. Obviously the function calls for disinterestedness and public spirit on the part of the profession; but to this call it is certain that the profession will respond. It also calls for some new adjustments and new functions in medical schools, which should hereafter be careful to provide means of popular exposition concerning water supplies, foods, drinks, drugs, the parasitic causes or consequences of disease in men, plants, and animals, and the modes of communication of all communicable diseases. Medical museums should be arranged in part for the instruction of the public, and, with some suitable reservations, should be stately open to the public. The medical schools should also habitually provide popular lectures on medical subjects, and these lectures should be given without charge on days and at hours when working people can attend. In other words, selected physicians should become public teachers, as well as private practitioners. America has much to learn from Europe in regard to this public spirited service on the part of the profession."—*Public Health*.

The Health Department in New York City distributes cards upon which are printed rules for tuberculous patients. Our members should influence their local health officers to impress upon the public the contagiousness of tuberculosis, by circulating a similar set of rules. The principal points on the New York card are:

Don't live, study, or sleep in rooms where there is no fresh air.

Don't live in dusty air. Get rid of dust by mopping with damp cloths. Don't sweep with a dry broom.

Keep one window partly open in your bedroom

at night and air the room two or three times a day.

Don't eat with soiled hands. Wash them first.

Don't put hands or pencils in the mouth or any candy or chewing gum other persons have used.

Don't keep soiled handkerchiefs in your pocket. Take a warm bath at least once a week.

To those who have contracted consumption:

Don't waste your money on patent medicines. If you go to a doctor in time you can be cured.

Don't drink whiskey or any other form of liquor.

Don't sleep in the same bed with anyone else, and, if possible, not in the same room.

Good food, fresh air and rest are the best cures. Keep in the sunlight as much as possible.

Keep your windows open winter and summer, day and night.

The careful and clean consumptive is not dangerous to those with whom he lives and works.

The following rules are enjoined on even healthy persons, and they are asked to observe them:

Don't spit on sidewalks, floors or hallways. Spit into the gutters or a spittoon half filled with water.

Don't cough or sneeze without holding a handkerchief before the face.

## Book Notices

**Gynecology and Abdominal Surgery.** In two large octavos. Edited by Howard A. Kelly, M.D., Professor of Gynecologic Surgery at Johns Hopkins University; and Charles P. Noble, M. D., Clinical Professor of Gynecology at the Woman's Medical College, Philadelphia. Large octavo volume of 851 pages, with 405 original illustrations by Mr. Hermann Becker and Mr. Max Broedel. Philadelphia and London: W. B. Saunders Company, 1907. Per volume: Cloth, \$8.00 net.

The authors of this first volume are as follows: Brooke M. Anspach, M. D., J. M. Baldy, M. D., Henry T. Byford, M. D., John G. Clark, M. D., George M. Edebohls, A. M., M. D., LL. D., William W. Ford, A. B., M. D., D. P. H., Anna M. Fullerton, M. D., Fernand Henrotin, M. D., Guy L. Hunner, B. S., M. D., Elizabeth Hurdon, M. D., Howard A. Kelly, A. B., M. D., LL. D., F. R. C. S., Beverly MacMonagle, M. D., Charles P. Noble, M. D., Alexander J. C. Skene, M. D., J.

Clarence Webster, A. B., M. D., F. R. C. P. E., F. R. S. E., X. C. Werder, M. D.

The subjects considered are arranged under 25 chapter-headings, and do not extend beyond the pale of strict gynecology, relating to the reproductive organs and bladder. The first quarter of the book is concerned with general gynecologic technic, bacteriology, and pathology. No surgical treatise and seldom a monograph has given so thorough and accurate a description of the pathology of the genitals; it is much desired by many who would not otherwise gain the knowledge. The illustrations of gross and microscopical specimens are noteworthy for their profusion and technical excellence; the drawings often seem like photographic reproductions. It may be remarked that Dr. Hurdon adopts pathologic conceptions not always adhered to by other authors in the Clinical chapters; for instance, she limits the term "endometritis" to lesions of infectious origin, and the so-called "glandular endometritis" she classifies as "gland hypertrophy." But Noble and Ansbach, in the succeeding chapter, preserve the more popular terminology.

The subject of medical gynecology is set forth with such detail as to make it of great value to the general practitioner; there is a judicious medium observed between exaggerated operative work and a neglect of the same. All through the book this good judgment is apparent in the statement of exact truths so far as known and the presentation of unbiased opinions. This is assisted by the quotation of many statistics, especially in the matter of surgical mortality, immediate and ultimate, and of cures, relative and absolute.

The remainder of the book is taken up with the discussion of gynecologic surgery, including plastic work, combined operations, pelvic ablations by the abdominal and vaginal route, with chapters on preparation and after-treatment, bladder operations, treatment of uterine cancer, etc. As stated in the preface, all elementary details are omitted, and it is a pleasure to read a work where the authors presume some intelligence possessed by the reader.

There are many subjects dwelt upon which are seldom found outside of special articles; for instance, the hygiene of adolescence, the conduct of operations in private houses, the care of the patient after she has passed from the hands of the surgeon, operations before puberty, the examination and treatment of virgins, the complications and degenerations of fibroids of the uterus, and others. Every author also is at pains to elaborate

the matter of prognosis, which is usually a neglected division of surgical works. Still another strong point is the description of how actually to do things; there is no dismissal of methods with verbose generalities, but a detailed, yet succinct, statement of every step in a given procedure. Careful illustrations strengthen the text in such places.

The chapter on vesical fistula is an especially lucid and readable contribution from Dr. Kelly himself; he also has written the chapters on Technic, Vaginal Drainage for Abscesses, Conservative Operations on Ovaries and Tubes, and Operations before Puberty. Dr. Noble's name is seen at the head of no less than eight chapters.

The work of this first volume is almost ideal. It appeals to every practitioner of medicine, but its greatest appeal must be to the general physician, who will find how to diagnose, what to do, when to do it, and how to do it. There is everywhere evident the skilled hands of experienced editors and publishers. One will have interesting reading wherever he opens, and the most learned may still learn something more. We have seldom seen a work that can be so unreservedly recommended.

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**Diseases of Infancy and Childhood.** Their Dietetic, Hygienic and Medical Treatment. A textbook destined for practitioners and students of medicine. By Louis Fischer, M. D., Visiting Physician to the Willard Parker and Riverside Hospitals, New York City. Octavo, 979 pages. 303 illustrations and 27 full-page halftones and color plates. Philadelphia: F. A. Davis Co., 1907.

Fischer has added another work to the already numerous list of good books treating of the diseases of infancy and childhood.

The subject is divided into twelve parts for discussion: 1. The Newborn Infant. 2. Abnormalities and Diseases of the Newly-born. 3. Feeding in Health and Disease. 4. Disorders Associated with Improper Nutrition, and Diseases of the Mouth, Oesophagus, Stomach, Intestines, and Rectum. 5. Diseases of the Heart, Liver, Spleen, Pancreas, Peritoneum and Genito-Urinary Tract. Diseases of the Respiratory System. 7. The Infectious Diseases. 8. Diseases of the Blood, Lymph Glands, or Nodes, Ductless Glands. 9. Diseases of the Nervous System. 10. Diseases of the Ear, Eye, Skin, and Abnormal Growths. 11. Diseases of the Spine and Joints. 12. Miscellaneous.

Throughout the work there are many quotations of others' views. However, the text is really

an expression of the worker's own beliefs, founded upon clinical observation in Europe and as attending physician to the Riverside and Willard Parker Hospitals.

The chapters on physiology and diseases of the newborn are brief but usually to the point. A frequent condition like atelectasis might have received more notice.

To the important section on "Feeding in Health and Disease," 155 pages have been devoted. This includes management during breast feeding and wet nursing; a discussion of the chemical properties of cow's milk and instructions for obtaining and keeping cow's milk clean. Fischer demonstrates his method of artificial feeding by giving the clinical records of his own cases. He prefers whole milk to top milk mixtures, uses cane sugar, and, usually, some cereal. There is more use made of proprietary foods than most pediatritians admit and more than the usual space is given to substitutes for milk, most of which are of German origin.

Of disease in general most attention is given to diagnosis and treatment. The bacteriology of the intestinal tract is quite fully discussed.

Cholera Infantum and Summer Diarrhoea are grouped under the head of Acute and Subacute Milk Infections, respectively, showing how much importance Fischer gives to dirty milk as the source of infection. The author is skeptical of any distinct condition as cyclic vomiting. He classifies colicky abdominal pains due to impacted feces as pseudo-appendicitis.

The section on Infectious Diseases is quite suggestive.

Throughout there are many practical therapeutic aids. The illustrations are numerous and instructive.

**A Text-Book of Physiological Chemistry.** By Charles E. Simon, Professor of Clinical Pathology at the Baltimore Medical College. Octavo, 490 pages. Philadelphia: Lea Brothers & Co., 1907.

The third edition of Simon's well known text on physiological chemistry is in many ways superior to the previous edition. The rapid strides that are taking us deeper and deeper into the realm of the chemistry of body cells, ferment and metabolic products, require frequent additions to a book dealing with such a living, progressing subject.

The first chapter is a general consideration of

the synthesis of fats, carbohydrates and albumins in the vegetable kingdom; of the significance of catalysis and of enzyme action.

Chapters II., III. and IV. deal with a careful description of albumins, carbohydrates and fats respectively. On page 46 an excellent table gives the comparative quantities of aminoacids in various albumins. The scheme at the end of the second chapter is especially valuable, showing in full our present knowledge of derived albumins resulting from proteolytic digestion.

More attention might have been paid to the topic of ferments, which is an ever-growing and important subject. None of the recent English work is referred to.

The following five chapters are in most respects similar to the previous edition treating of the digestive fluids, their action, products and final disposition of these products, either through resorption or elimination. Then follows a long, carefully arranged, chapter on the urine, containing the chemistry of and tests for most of the abnormal substances excreted by the kidneys. This is especially useful to those desiring special methods of investigation in this particular line.

Chapters XIV. and XV. deal with the blood and the lymph. The latter is materially changed and exceptionally good, considering that much of it is recent work.

The remainder of the book contains the chemistry of especial tissues and organs. More space is given to the chemistry of the products of glands having internal secretion than heretofore.

The appendix, composed of laboratory exercises, is useful, and serves as a good guide for the study of the book itself.

Inasmuch as the text is designed for those who are endeavoring to keep "abreast with the times" as well as students, a bibliograph with each chapter would be a desirable addition and not add much to the size of the volume.

The book is the most useful of its kind for those interested in the subject of physiological chemistry and should have a large sale.

**The Practice of Obstetrics.** By American Authors. Edited by Charles Jewett, M. D., Professor of Obstetrics in the Long Island Hospital, Brooklyn, N. Y. Octavo; 786 pages, 445 engravings in black and colors and 36 full-page colored plates. Cloth, \$5.00 net. Lea Brothers & Co., New York, 1907.

Jewett's Practice of Obstetrics has been a deservedly popular book and appears now in the

third edition. The collaborators, seventeen in number, represent some of the best known teachers of obstetrics. They have prepared concise, yet comprehensive, chapters on their assignments and there is evidence of careful editorial work on the part of Dr. Jewett. The illustrations are numerous, but are for the most part copied from Testut, Savage, Edgar, Simpson and Bumm. Whenever necessary for the sake of clearness, they are in colors.

Among the stronger chapters are those on embryology, the diagnosis of pregnancy, the mechanics of labor, and puerperal infection.

This new edition has been improved and is to be recommended to those who wish a reference book of moderate size.

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**A Manual of Diseases of the Nose, Throat and Ear.** By E. Baldwin Gleason, M. D., Clinical Professor of Otology at the Medico-Chirurgical College, Philadelphia. 12mo. of 556 pages, illustrated. Philadelphia: W. B. Saunders Company, 1907. Flexible leather, \$2.50 net.

This manual was written to supply students, and general practitioners with the facts of rhinology and otology essential for them to know—and as such, fulfills very well its mission. That it fulfills the author's endeavor to present anatomy, physiology, and pathology sufficiently complete for practitioners taking a post-graduate course, is decidedly open to question. The anatomy of the nose and its sinuses, which is absolutely essential as a foundation to rhinology, is stereotyped into a few incomplete paragraphs, while the anatomy of the tonsils escapes mention entirely. It is not surprising therefore to see advocated partial removal of the latter by means of a tonsillatome, snare or galvanocautery. One looks in vain for mention of direct tracheo-bronchoscopy. Otosclerosis barely escapes omission, being cited only as a cause of failure in the operation, to produce mobilization of the stapes. Like most books of its kind, it fills a certain place as a compend, but to one seeking more than superficial knowledge in these special branches of medicine, it offers little of value.

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**Progressive Medicine, Vol. III, September, 1907.** A quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D. 290 pages, with 15 engravings. Per annum, in four cloth-bound volumes, \$9.00; in paper bind-

ing, \$6.00, carriage paid to any address. Lea Brothers & Co., Philadelphia.

The third volume for the year of Progressive Medicine contains four main articles, each being a review of the recent literature in its department. The first is by Ewart and discusses the diseases of the heart, lungs and blood vessels; the second, by Gottheil, covers dermatology and syphilis; the third is a review of obstetrics, by Davis; the fourth, on diseases of the nervous system, by Spiller.

## County Society News

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### IONIA.

The Ionia County Medical Society held its annual meeting at the Town Club Rooms, Ionia, October 17. Sessions were held in the afternoon and evening, and the number present was the largest yet recorded. The program included a visit to the Michigan Asylum, as guests of Dr. O. R. Long. Dr. W. R. Grant, of Lyons, read a paper at the evening session and there followed a general discussion on the topic, "A New Fee-bill and Better Pay for Our Services."

The following were elected officers for the coming year: President, C. B. Gauss, Palo; first vice-president, C. C. Dellenbaugh, Portland; second vice-president, G. A. Stanton, Belding; third vice-president, B. O. Ericsson, Ionia; fourth vice-president, J. D. Bradfield, Orange, secretary-treasurer, C. S. Cope, Ionia; delegate to the Manistee meeting, C. S. Cope, Ionia; alternate, J. W. Little, Belding.

C. S. COPE, Sec'y.

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### JACKSON.

The Jackson County Society began the post-graduate work for the season on October 29. The meetings for this course will be held Thursday evening of each week, beginning at 7:15 and ending promptly at 8:45. At each meeting a chairman will have charge, and he will be responsible for the program of that evening. The discussions are limited to five minutes and a member may reserve a discussion period in advance by sending notice to the chairman.

The program committee, consisting of Drs. E. C. Taylor, C. H. Lewis, and C. D. Munro, have

prepared the following outline:

October 29, 1907. Chairman, Dr. W. H. Gibson. Paper: "Recent Advances in General Surgery."—Dr. G. E. Seybold.

November 5, 1907. Chairman, Dr. C. G. Parnall. Paper: "Recent Advances in Gynecology and Obstetrics."—Dr. Grace Hendricks.

November 12, 1907. Chairman, Dr. C. H. Lewis. Paper: "Recent Advances in Eye, Ear, Nose, and Throat Work."—Dr. T. S. Langford.

November 19, 1907. Chairman, Dr. Martha Strong. Paper: "Recent Advances in Therapeutics."—Dr. L. J. Harris.

November 26, 1907. Chairman, Dr. P. I. Edwards. Paper: "Recent Advances in Clinical Diagnosis."—Dr. John Smith.

December 3, 1907. Chairman, Dr. Grace Hendricks. Paper: "Recent Advances in Bacteriology, Pathology, Etc."—Dr. W. R. Snow.

December 10, 1907. Chairman, Dr. A. R. Williams. Paper: "Important Fractures—Diagnosis and Treatment."—Dr. J. C. Kugler.

December 17, 1907. Chairman, Dr. C. D. Munro. Paper: "Important Dislocations—Diagnosis and Treatment."—Dr. E. C. Taylor.

December 31, 1907. Chairman, Dr. J. F. Wesch. Paper: "Tubercular and Syphilitic Arthritis—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. C. H. Lewis.

January 7, 1908. Chairman, Dr. D. E. Robinson. Paper: "Gonorrhreal and Rheumatic Arthritis—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. A. R. Williams.

January 14, 1908. Chairman, Dr. M. P. Guy. Paper: "Osteomyelitis, Osteomalacia and Bony Tumors—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. C. D. Munro.

January 21, 1908. Chairman, Dr. E. C. Taylor. Paper: "Tubal Pregnancy—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. D. E. Robinson.

January 28, 1908. Chairman, Dr. Peter Hyndman. Paper: "Inflammation of the Uterine Appendages—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. Martha Strong.

February 4, 1908. Chairman, Dr. N. H. Williams. Paper: "Uterine Inflammation and Tumors—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. C. G. Parnall.

February 11, 1908. Chairman, Dr. J. H. Meyers. Paper: "Cystocele and Rectocele—Etiology and Treatment."—Dr. H. G. Brown.

February 18, 1908. Chairman, Dr. A. E. Bulson. Paper: "Recent Important Medico-Legal Decisions."—Judge J. A. Parkinson.

February 25, 1908. Chairman, Dr. John Smith. Paper: "Cystitis in Male and Female—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. E. S. Peterson.

March 3, 1908. Chairman, Dr. H. D. Hodge. Paper: "Gonorrhea in Male and Female—Pathology, Diagnosis and Treatment."—Dr. F. W. Rogers.

March 10, 1908. Chairman, Dr. T. S. Langford. Paper: "Syphilis—Pathology, Diagnosis, Medical and Surgical Treatment."—Dr. G. R. Pray.

March 17, 1908. Chairman, Dr. G. A. Seybold. Paper: "Tuberculosis—Pathology, Diagnosis and Medical Treatment."—Dr. N. H. Williams.

March 24, 1908. Chairman, Dr. W. J. Marks. Paper: "Inflammatory Rheumatism—Pathology, Diagnosis and Treatment."—Dr. M. P. Guy.

March 31, 1908. Chairman, Dr. J. C. Kugler. Paper: "Endocarditis and Valvular Heart Lesions—Pathology, Diagnosis and Treatment."—Dr. W. H. Gibson.

April 7, 1908. Chairman, Dr. A. J. Roberts. Paper: "Chorea—Pathology, Diagnosis and Treatment."—Dr. P. I. Edwards.

April 14, 1908. Chairman, Dr. W. R. Snow. Paper: "Neuritis—Pathology, Diagnosis and Treatment."—Dr. Olive Thorne.

April 21, 1908. Chairman, Dr. L. J. Harris. Paper: "Poliomyelitis—Pathology, Diagnosis and Treatment."—Dr. W. J. Marks.

April 28, 1908. Chairman, Dr. G. R. Pray. Paper: "The Eruptive Fevers—Pathology, Differential Diagnosis, Complications and Treatment."—Dr. H. D. Hodge.

May 5, 1908. Chairman, Dr. H. D. Brown. Paper: "Chronic Nephritis—Pathology, Diagnosis and Treatment."—Dr. J. H. Meyers.

May 19, 1908. Chairman, Dr. Olive Thorne. Paper: "Asthma and Hay Fever—Pathology, Diagnosis and Treatment."—Dr. A. J. Roberts.

May 26, 1908. Chairman, Dr. E. S. Peterson. Paper: "Acute and Chronic Naso-pharyngitis—Pathology, Diagnosis and Treatment."—Dr. J. F. Wesch.

June 2, 1908. Chairman, Dr. M. McLaughlin. Paper: "Medical Examination in the Schools."—Dr. A. E. Bulson.

T. S. LANGFORD, Sec'y.

## KENT.

The Kent County Medical Society resumed its regular meetings on September 11, when Dr. J. S. Edwards read a "Review of Some of Osler's Works." On September 25, Dr. F. J. Groner read a paper on the "Surgery of Amputations." Both meetings were well attended and in addition to a free discussion of the above papers, a number of interesting cases were reported by the various members. Case reports have been made one of the principal features of every meeting. These reports are always very interesting and bring forth free discussion and opinions.

The Committee on Public Health and Legislation reported upon the plan they were pursuing in the prosecution of illegal practitioners. We hope, in the near future, to be able to give a fuller report of their work and the results obtained.

At our last meeting our President, Dr. S. L. Rozema, appointed a committee of three to be known as the "Committee on Papers and Publications," whose duty it shall be to preserve and prepare for publication such papers as are read before the society.

Our next meeting will be a Symposium on Diabetes.

Thus, Kent County has resumed its regular meetings with renewed enthusiasm and vigor, and we look forward to a winter of profitable and interesting meetings.

F. C. WARNSHUIS, Acting Sec'y.

## LAPEER.

The annual meeting of the Lapeer County Medical Society was held in the parlor of the Graham House, Lapeer, October 9, 1907. The meeting was well attended.

Dr. George Dock, of Ann Arbor, read a most interesting paper on some "Functional Diseases of the Heart." A paper was also read by M. B. McCausland, of Imlay City.

The following officers were elected: Dr. W. J. Kay, of Lapeer, president; Dr. O. J. Thomas, of North Branch, vice-president; Dr. M. B. McCausland, of Imlay City, secretary; Dr. A. O. Bolton, of Attica, treasurer.

The next meeting of the society will be held at Lapeer. M. M. McCASLAND, Sec'y.

## LENAWEE.

The Lenawee County Society had an excellent meeting at Blissfield on October 8. Four new members were added to the roll, making 51 in all, the largest number ever enrolled in the society.

Papers were read by members of the society and by Drs. Jacobsen, of Toledo, and Polozker, of Detroit.

The annual meeting will be held December 10, and a banquet is expected at that time.

J. C. JOHNSON, Sec'y.

## OAKLAND.

The Oakland County Medical Society held their sixth annual meeting Tuesday, September 10, at 2 o'clock in the supervisor's rooms in the Court house, at Pontiac.

Dr. Max Ballin, of Detroit, read a paper on the "Treatment of Goiters" and illustrated the important points by operative and post-mortem specimens. Dr. Ballin's paper treated the subject exhaustively and provoked a generous discussion.

The annual report of the Secretary-Treasurer showed the society to be in good financial condition and recommended special efforts to increase the membership the coming year.

The following officers were elected for the ensuing year: Dr. G. W. MacKinnon, of Oxford, president; Dr. Thos. E. McDonald, of Holly, vice-president; Dr. C. D. Morris, of Pontiac, secretary-treasurer. The board of directors will consist of the president, secretary and Drs. M. W. Gray, E. A. Christian and N. B. Colvin, all of Pontiac.

C. D. MORRIS, Sec'y.

## STATE BOARD OF REGISTRATION.

The State Board of Registration in Medicine met at Lansing on October 8, 9 and 10, and examined ten candidates for license.

The questions were as follows:

## BACTERIOLOGY.

Albertus Nyland, M. D., Grand Rapids.

- Define the following: (a) bacteria; (b) pathogenic; (c) saprophytic; (d) leucocytes; (e) phagocytes; (f) opsonins. Describe the theory of phagocytosis.

2. What is a culture? How is it made? State its object. Why do you stain bacteria?
3. Describe the tubercular test and the opsonic index test for the diagnosis of tubercular infection.
4. What are the essential factors in infective processes, and name the bacteria most commonly associated with ordinary and suppurative processes.
5. Describe in detail the examination of sputum for tubercle bacilli. How would you make a bacteriological diagnosis of diphtheria?

#### PATHOLOGY.

Beverley D. Harison, M. D., Detroit.

1. Round-celled Sarcoma—give a brief description of.
2. Definition and etiology of Hypertrophy.
3. Name the Albuminoid Degenerations.
4. What is Acute Lymphadenitis? Give its pathologic anatomy.
5. Describe a Retention Cyst.
6. Etiology and results following Oophoritis.
7. Distinguish between fatty degeneration and fatty infiltration of kidney.
8. The most favorable termination of a thrombus is organization. Describe the process.
9. Describe briefly the morbid changes observed in a case of Typhoid Fever, including two very common complications, upon making a complete post-mortem examination.
10. Necrosis—distinguish between the coagulation and liquefaction forms, with example of each.

#### CHEMISTRY AND TOXICOLOGY.

J. L. Campbell, M. D., Birmingham.

1. What important compound is formed by the combination of hydrogen and nitrogen? Give formula.
2. What are the Halogens? Describe them.
3. How is the temperature and the pressure of the atmosphere measured?
4. What is the object of analyzing urine?
5. What is Analysis? Synthesis?
6. What are Sulphates? Give three examples.
7. What is the superscription; inscription; subscription; and signa of a prescription?

8. What are the prominent symptoms of Belladonna poisoning? Of Opium poisoning?
9. What are the prominent symptoms of Chloral poisoning?
10. What is Toxicology? Give different classes of poisoning and an example of each class.

#### ANATOMY.

J. H. Ball, M. D., Bay City.

1. Name structures that would be cut through in an amputation of the forearm at the upper third.
2. Give the blood and nerve supply of the uterus and appendages.
3. Give the branches of the abdominal aorta.
4. Give the origin and distribution of sciatic nerve.
5. Give the function and general distribution of cranial nerves.
6. Bound the axilla and give contents.
7. Give the position of the contents of axilla.
8. Name the regions of abdomen and give contents.
9. Describe the popliteal space and give contents.
10. Name the muscles attached to the humerus.

#### HISTOLOGY.

Joseph H. Cowell, M. D., Saginaw.

1. Describe the formation of the mesoderm and name the tissues which develop from it.
2. Name and describe the different forms of bone marrow.
3. Name the varieties, or groups, of leucocytes, according to their morphologic differences, or peculiarities in behavior towards coloring matter.
4. Describe the blood supply of the spleen.
5. Describe one method of preparing for mounting sections of tissues.

#### PHYSIOLOGY.

William Bell, Belding, Michigan.

1. What are the manifestations of cell life?
2. What is a neuron? What conditions of the nervous system would tend to favor an exaggerated "knee jerk" and the reverse?
3. What is the normal acid of the urine, its

ultimate source, and the principal factors relating to its formation in excess?

4. What is glycogen? Where formed? and what purpose does it subserve in the economy?

5. What is meant by the term inhibition? Give example, and explain mechanism.

6. What do you understand by the term "Metabolism"?

7. What is meant by the term "Refracting Apparatus"? and what are the more common wrongs relating thereto?

8. Describe the three stages of digestion.

9. How many groups of food are necessary for the maintenance of man, and what substances make up these groups?

10. Discuss the function of the thyroid gland, and locate and describe the parotid gland, giving its function.

#### PRACTICE.

T. A. Felch, M. D., Ishpeming, Mich.

1. Clinical history of arterio-sclerosis; prognosis and treatment.

2. Differentiate between acute pleurisy and intercostal neuralgia.

3. Mention the various causes which may lead to convulsions in children.

4. What physical signs warrent a diagnosis of mitral stenosis?

5. Give your treatment of acute nephritis.

6. Give the differential diagnosis of scarlet fever, measles and diphtheria.

7. Give the differential diagnosis of renal and hepatic colic.

8. Describe epilepsy and its varieties, and give causes.

9. Differentiate acute pericarditis from acute endocarditis.

10. Describe the eruption of variola in its different stages.

#### SURGERY.

A. W. Alvord, M. D., Battle Creek.

1. Given an oblique fracture of outer third of clavicle. What is the best method of repair?

2. Describe the operation for the radical cure of femoral hernia.

3. What is the best anesthetic for ordinary use, and why? Give method of application.

4. How would you treat acute tubercular peritonitis?

5. What is Normal Saline Solution? When and where should it be used?

6. For what lesions, and when, is it necessary to amputate a limb in case of a compound, comminuted fracture?

7. Describe rectal fistula and the best method of cure.

8. What is Paracentitis Thoracie? When is it necessary? Describe the technique.

9. How would you diagnose a hip dislocation, and how would you reduce it?

10. What is Appendicostomy, and to what cases is it applicable?

#### MATERIA MEDICA AND THERAPEUTICS.

Flemming Carrow, M. D., Detroit.

1. How do opium and its preparations, when given internally, affect the Pupil and the Heart?

2. What is the composition, effects and dosage of Pulv. Ipecac Comp.?

3. What effect does pilocarpine have upon the eye and the skin, and what are its chief therapeutic uses?

4. Describe fully the management of a case of Anasarca of Renal origin.

5. Describe in detail the action of the "Digitalis series" on (a) the central nervous system; (b) the heart, and mention the more important members of this group, with the dose of each?

#### GYNECOLOGY.

Flemming Carrow, M. D., Detroit.

1. Leucorrhea is a symptom, not a disease. What are its sources?

2. Describe the menstrual history of a healthy woman of 30 as to age of onset,—periodicity,—duration of flow,—sensation at time of flow,—character of the flow,—and probable age of cessation.

3. Differentiate between a pregnancy at the 5th month, and Tumors of Pelvic origin.

4. Extra uterine pregnancy,—the symptoms,—differential diagnosis,—treatment,—the result of unoperated cases.

5. Mrs. W., aged 46, the mother of three

children,—oldest of whom is 20, youngest 14,—ceased menstruating one year ago. She comes to you complaining that three weeks ago she noticed a very slight bloody vaginal discharge. This lasted ten days, then disappeared, to appear again four days ago. There has been no pain and she has felt perfectly well,—what condition would you expect to find on examination? Suppose the bi-manual examination is negative, what would you recommend?

#### OBSTETRICS.

Joseph H. Cowell, M. D., Saginaw.

1. What is the place of insertion of the placenta in the following presentations: L. O. A., R. O. A., L. O. P., R. O. P.?
2. Given an incarcerated, retroflexed, pregnant uterus, what are its dangers? How reduced? Give after treatment.
3. What is Wälcher's position? When is it found useful, and why?
4. How may fibroids complicate pregnancy? Mention the varieties and give treatment.
5. Give the technique of saline infusion.

#### EYE, EAR, NOSE AND THROAT.

Henry C. Maynard, M. D., Hartford.

1. Describe the eye ball as a whole—its diameters, poles, axes, planes and tunics.
2. Persistent headache over the eyebrows may be due to what cause?
3. Give a detailed account of the parts and boundaries of the tympanic cavity of the ear.
4. Membranous-anginae (non-diphtheric). Describe the different forms, and give treatment.
5. How would you treat a case of diphtheria?

#### MEDICAL JURISPRUDENCE.

Henry C. Maynard, M. D., Hartford.

1. Of what does medical jurisprudence treat?
2. What is the difference between civil and criminal malpractice?
3. Define mania, giving its prognosis and, briefly, its treatment.
4. At what stage of intrauterine life does the foetus become viable?
5. How would you differentiate between narcotic poisoning, drunkenness, uremia and concussion?

#### HYGIENE.

Albertus Nyland, M. D., Grand Rapids.

1. Define hygiene. Name the principal infectious and contagious diseases in order of their prevalence. What methods would you use for the restriction of those diseases?
2. Name diseases which may be transmitted through the following agencies: (a) air; (b) water; (c) milk (d) soil; (e) insects.
3. What is food? Name the three groups of food and state the general purpose each subserves in the animal economy. Give example of each.
4. Describe the best method of disposing of liquid refuse where there is no sewage system. Describe best method of disinfecting a room which has been occupied by a case of contagious disease.
5. What conditions are essential to a good water supply? Mention some of the constituents that render water unfit for drinking. How can impure water be purified? What test would you use to determine the purity of water?

#### MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC).

J. H. Ball, M. D., Bay City.

1. Bryonia. Give general physiological action. Give characteristic symptoms.
2. Hepar Sulphur. Give characteristic symptoms and therapeutic application.
3. Gelsemium. How prepared. Give sphere of action. Give therapeutic application and indications.
4. Belladonna. Give its alkaloid. Give dose and action of same. Give five characteristic indications for Belladonna.
5. Mercury. Give preparations of mercury used in homeopathic materia medica. Give characteristic indications for two of the preparations of mercury.

#### PRACTICE OF MEDICINE (HOMEOPATHIC).

Joseph H. Cowell, M. D., Saginaw.

1. Give the morbid anatomy of lobar pneumonia in all stages.
2. What are the clinical features of dysentery? Give treatment.

3. Give the etiology of acute miliary tuberculosis.
4. Differentiate between follicular and suppurative tonsillitis.
5. What causes "sun stroke?" Give pathologic conditions and treatment.
6. Name the causes of chronic dilatation of the stomach. Give symptoms, diagnosis and treatment.
7. What are the chief causes of diarrhoea in infants? Give the dietetic treatment.
8. Define angina pectoris. What pathologic conditions are present in this disease? Give treatment.
9. What is Bright's Disease?
10. Give the treatment of acute chorea.

To the Editor:  
Was the bill introduced at the last session of the State Legislature, providing compensation for registering births, passed?

G. F.

### **Correspondence.**

At the request of the Washtenaw County Society Representative Newkirk introduced a bill providing that a fee of fifty cents be paid for each birth certificate properly filled out and filed. This bill was passed and was signed by Governor Warner, going into effect June 27th.

The full text of the law follows:

**AMENDMENT TO THE LAW FOR THE REGISTRATION OF BIRTHS AS APPROVED BY THE GOVERNOR AND IN IMMEDIATE EFFECT JUNE 27, 1907.**

An act to amend section six of act number three hundred thirty of the Public Acts of nineteen hundred five, entitled "An act to provide for the immediate registration of births, and the requiring of certificates of births," approved June twenty, nineteen hundred five.

*The People of the State of Michigan enact:*

Section 1. Section six of act number three hundred thirty of the Public Acts of the State of Michigan for the year nineteen hundred five, approved June twenty, nineteen hundred five, is hereby amended to read as follows:

Section 6. Every physician, midwife, or nurse shall be entitled to be paid the sum of fifty cents for each certificate made and filed by such physician, midwife or nurse as provided in section two

of this act, and each local registrar shall be entitled to be paid the sum of twenty-five cents for each birth certificate properly and completely made out and registered with him and by him returned to the Secretary of State, on or before the fourth day of the following month, which sum shall include the making of the copy of the certificate to be filed and preserved in his office. Certificates lacking certain items, including the given or Christian name of the child as to children not named at the date of filing the report, shall not be considered as defective, providing the missing information is obtained and returned to complete the certificate as elsewhere provided in this act: Provided, That the registrar for the city of Detroit and the registrar for the city of Grand Rapids shall receive no compensation for the duties required under this act. In case no births occurred during a calendar month, the local registrar shall be entitled to be paid the sum of twenty-five cents for each report to that effect promptly made in accordance with the requirements of this act. All amounts payable to such registrar under the provisions of this section shall be paid by the treasurer of the county in which the registration district is located upon presentation of a proper warrant, issued by the Secretary of State. And the Secretary of State shall issue warrants in favor of local registrars at the end of their official years, or for the year ending March thirty-first when continuing in office, specifying the number of certificates properly registered and promptly returned, and the number of prompt monthly reports made by each, to the effect that no births occurred, with the amount due at the rate fixed herein. Any physician, midwife or nurse who shall be entitled to any of the fees provided by this act, shall, on or before the first day of April of each year, file a sworn, itemized statement, upon such blanks as the secretary of state shall prescribe, of his or her claim for such fees for the year beginning April one preceding, with the local registrar of the township or city where such certificates were filed; and the local registrar shall compare the statement so filed with the records in his office, and, if said statement is correct, shall endorse thereupon his approval of the same in writing. The Secretary of State, upon receipt of such sworn statement, approved by the local registrar, as aforesaid, shall issue his warrant in favor of such physician, midwife or nurse for the amount of such fees. Upon presentation of said warrant to the treasurer of the county in which the registration district is lo-

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cated, the county treasurer shall pay the same, in the same manner and out of the same fund that the fees of the local registrar are paid.

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Budapest, September 9, 1907.

To the Editor:—

Budapest, the capital of Hungary, has over 800,000 inhabitants and is known as one of the beautiful cities of the world, not only on account of its fine location on the Danube, but also on account of its handsome and really magnificent buildings.

The medical study is similar to that in Germany. After a five years' course, an examination for the license is passed, but the permission to practice is given only after a whole practical-year has been spent in the clinics. Last year, one hundred and sixty students were graduated, of whom nine were women. The clinical material is declared to be overabundant, and I heard great regret expressed that Americans do not avail themselves of the opportunities here as they do in Vienna, from which city Budapest can be reached in four hours. It is my opinion that a great deal could be accomplished to the advantage of all concerned if the matter would be taken up properly. Of course, a beginning must be made through some responsible organization, or else, one might come here and look over the field for oneself. I am told that strangers are very welcome. The hospitality of the Hungarians is well known. I am personally acquainted with one American who has worked in a clinic in Budapest and who is quite enthusiastic about the way he was treated and the opportunities given to him. It appears to me that the people are more hustling than in Vienna and more American like. This seems to be the case also in the clinics.

Budapest possesses numerous hospitals. They are supported either by the state, the city, or private parties. There exist some private institutions in which physicians and surgeons treat their patients. The new university clinics are partly finished and partly in the course of reconstruction. It is expected that a fine showing can be made by them two years hence when the International Medical Congress will meet in Budapest. I visited two departments of the big plant. The buildings, wards and operating rooms which have thus far been finished, make a splendid, up-to-date appearance. I have also visited some of the city hospitals. One of them, the Rochus hos-

pital, is centrally located and rather old, but very good work is done there. The St. Stephan's hospital and the St. John's hospital are more attractively situated in park-like grounds, especially the latter. The official in the city hall was kind enough to furnish me with the information that the city has, at present, about 3,934 beds at its disposal. In this number are not included those in the University Hospitals and in the numerous private institutions. Not to speak of the hospitals which belong to physicians and which enjoy a great reputation, I will only mention among the private hospitals, the Red Cross Hospital of 120 beds, which is beautifully located, and one of the children's hospitals, which also makes a good impression. The material in the out-patient department appeared to me to be extremely large.

The surgical work about which I could form an opinion in the limited time at my disposal in Budapest, also in the ear, nose and throat line, appeared to correspond in quality and in quantity to that expected in a medical center of this magnitude and importance. The assistants seemed to be given great opportunities for practical work. It seems that the city has enjoyed a rapid growth, and the energy and enthusiasm appear to be very markedly expressed, also in medical matters.

EMIL AMBERG.

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**News**

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Dr. Charles J. Ennis, of Sault Ste. Marie, has returned from travels in Ireland.

Dr. Peter J. Livingston, of Caro, has returned from a foreign tour of several months.

The Canadian Medical Association held a notable session in Montreal, Sept. 11-13. A new constitution and by-laws were adopted, with plans for a new medical journal as the official organ. The re-organization is patterned in some respects after the American Medical Association. The following officers will preside at next year's meeting in Ottawa: President, Dr. Frederick Montzambert, of Ottawa; general secretary, Dr. George Elliott, of Toronto; treasurer, Dr. H. Beaumont Small, of Ottawa.

The eighth annual meeting of the American Roentgen Ray Society was held in Cincinnati, Oct. 2, 3 and 4, under the presidency of Dr. P. M. Hickey, of Detroit.

Dr. Frank A. Millard, of Detroit, has returned from Europe.

Physicians throughout the state are failing to report typhoid cases to local health boards. The resulting evil is calling forth vigorous protest.

Four cases of small pox in an advanced stage were discovered in Saginaw on Sept. 13.

Drs. Collins H. Johnston, of Grand Rapids, and Frank R. Gray, of Clare, have been reappointed on the Board of Control of the State Sanatorium at Howell.

Dr. W. L. Babcock, superintendent of Grace Hospital in Detroit, was elected secretary of the American Hospital Association at its recent meeting in Chicago.

Dr. Joseph Foster, of Lansing, has been appointed medical examiner for the new State Sanatorium at Howell.

Dr. J. Perry Worden, of Kalamazoo, has been appointed to the consular service of the United States, to be stationed at Bristol, England.

The governor has appointed Dr. William J. Kay, of Lapeer, a member of the board of trustees of the Eastern Michigan Asylum at Pontiac, to succeed F. E. Thompson, of Lapeer, resigned.

The Detroit College Alumni Association has elected Dr. W. E. Keane, of Detroit, as president. Dr. Keane was physician during the recent season to the Detroit Baseball Club.

Dr. A. Thuner, of Detroit, who has been seriously ill for many weeks, is now recovered and resuming practice.

Dr. W. H. Enders, of Eaton Rapids, has returned from a course of study in one of the German universities.

The Detroit Academy of Medicine, at its annual meeting on Oct. 8, elected officers as follows: President, Dr. F. B. Tibbals; vice-president, Dr. W. F. Metcalf; secretary-treasurer, Dr. H. D. Jenks.

Dr. Myrtle M. Canavan, of Traverse City, formerly secretary of the Grand Traverse County Medical Society, is reported to have accepted a position in the Danvers, Mass., Hospital for the Insane.

Dr. Sara Chase has been elected secretary of the Grand Traverse County Society to fill the vacancy caused by the resignation of Dr. Canavan.

Drs. J. M. Wilhelm and Frank Holdsworth, of

Traverse City, took post graduate work at Ann Arbor during the summer.

The Sanitarium at Traverse City is now ready for the accommodation of patients. There have been many improvements and the hospital has been enlarged and equipped with an up-to-date operating room.

## Marriages

Carl F. Fechheimer, M. D., of Detroit, to Miss Laura Offman, of Cincinnati, Oct. 4.

Charles Sturgeon, of Globe, Arizona, formerly of Calumet, to Miss Alice Houle, of Negaunee.

R. F. Codrington, M. D., of Haslett, to Miss Sara McLeman, of Detroit, Aug. 1.

Herbert Loyd Eastman, M. D., to Miss Edith Julia Fied, both of Detroit, Oct. 9.

Thomas R. Purkey, M. D., to Miss Eva C. Scott, both of Detroit, Sept. 30.

George Mayhew, M. D., of South Boardman, to Miss Grace Chase, of Greilickville, Oct. 2.

James A. Elliott, M. D., to Miss Agnes L. Meachem, both of Battle Creek, Oct. 3.

Ralph D. Engle, M. D., of Petoskey, to Miss Grace Gail Disbrow, of Addison, Oct. 9.

Reginald Smith, M. D., of Carsonville, to Miss Pearl Moore, of Sandusky, recently.

## Deaths

Charles Herman Kiehl, M. D., a graduate of the Detroit College of Medicine, 1905, died recently at his home in Albuquerque, N. M., aged 26.

Dwight M. Coonley, M. D., died at his home in Detroit, August 30, aged 63.

Fred McOmber, M. D., of Berrien Springs, died suddenly at his home, Aug. 19.

Madge Agnes Corbin, M. D., of Detroit, died suddenly at her sister's home, Oct. 10.

It is the duty of the proctologist to demonstrate by his work and writing that most tubercular fistulae are curable, and that the curing of ordinary fistulae does not tend to bring about lung or skin affections, as was formerly believed.—*Dr. S. G. Gant.*

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## Progress of Medical Science

### MEDICINE

Conducted by

T. B. COOLEY, M. D.

**Sphygmobolometry.**—SAHLI describes a new apparatus for studying the circulation. The estimation of blood pressure measures only the driving power, and from it we can draw no conclusions regarding the amount of work actually performed, knowing nothing of the mass to be moved and the resistance encountered. Therefore, if we wish information concerning the magnitude of the circulation, we must take other measurements. This instrument is designed to measure the strength of the pulse wave. It consists of a Riva-Rocci cuff, connected on one side with an inflating bulb, and on the other with a manometer. There are cocks for cutting off the connection with the bulb, and for letting out air from the cuff. The cuff is applied to the upper arm, and between it and the elbow an Esmarch bandage is wound in such a way as to obliterate the radial pulse, thus converting the part of the brachial artery extending to the lower edge of the cuff into a blind branch of the aorta. Moreover, through the compression of the veins, the capillaries are placed under arterial pressure and take part in the pulsation; so that the pulse energy is transformed almost completely to the manometer. This consists of a mercury column with two arms, in one of which a float transfers the vibrations to a disc. Evidently the pulse energy is most completely recorded at the joint where the fluctuation is greatest, and this point lies somewhere between the minimum and maximum blood pressure. It is measured by inflating the cuff to the point where the pulse wave first appears, and recording the fluctuation at increasing pressures until the pulse wave again disappears. The highest curve is taken, and the work performed by the pulse calculated by a formula which takes into account the mass raised to the height observed. When the strength of the single pulse beat has been thus ascertained, the actual work performed in a given time is readily calculated. Of course the instrument does not measure the entire energy of the heart, but only that which goes to the compressed portion of the arm. The method is said to determine more accurately the effect of heart treatment upon the circulation than any other hydraulic method.—*Deutsch. med. Woch.*, Nos. 16 and 17.

**Treatment of Liver Cirrhosis with Creatin.**—ZYPREIN reports the use of creatin, which he has

previously employed in tabes, disseminated sclerosis, and chronic myelitis, in a case of cirrhosis of the liver.

The patient came to the hospital on account of ascites and edema of the legs. At first she was given the drug by subcutaneous injection; later by the mouth. She took in all 4,800 tablets of creatin. She was discharged at the end of 14 months, having needed only one tapping. The liver was diminished in size, and the circumference of the abdomen had decreased 10 c. m. Menstruation, owing to better circulation, had returned. The character of the cirrhosis was not definitely determined.—*Wien. kl. Woch.*, 1907, p. 727.

**Abdominal Arterio Sclerosis and Related Conditions.**—PEMTZ draws the following conclusions:

1. Arteriosclerosis may lead to severe attacks of abdominal pain, often of the colicky character, which may have some feature resembling angina pectoris, or may pass into an attack of angina.

2. The attacks are usually brought about by a cramp of the small intestinal vessels, and the resulting rise of blood-pressure. The seat of the pain is probably the sympathetic, whose end fibers are usually excessively sensitive.

3 In addition to anatomical changes in the vessels, functional disturbances (as by nicotin and other poisons) may bring about such cramps.

4. The recognition of the condition is often difficult, and may require considerable observation. The effect of diuretin and vaso-motor drugs on the attack may be of considerable help in diagnosis.—*Munch. med. Woch.*, 1907, Nos. 22 & 23.

**Simple Method of Distinguishing Tubercular from Other Kinds of Pus.**—KOLACZEK and MULLER say that tubercular pus can be distinguished from other kinds by means of Millon's reagents. A small, moderately deep porcelain dish is filled with fluid to the rim with the reagent, and a drop of pus added. Tubercular pus forms a firm scum, and the fluid remains uncolored. Streptococcus pus forms a scum which soon disintegrates, and in a few minutes the fluid is colored red.—*Deutsch. med. Woch.* 1907, p. 685.

## SURGERY

Conducted by

MAX BALLIN, M. D.

**Tetany Parathyreopriva: A Case Report, With a Brief Discussion of the Disease and of the Parathyreoid Glands.**—Removal of all and possibly even a part of the parathyreoid bodies results in tetany. The symptoms of this disease are striking, and the diagnosis is usually simple. In the case reported, the diagnosis of tetany was based, in the presence of thorough electrical tests, first, upon the fact that the patient had never presented any hysterical or other nervous manifestations previous to the onset of the typical clinical features of tetany four days after an operation for goitre which thus supplied a direct anatomical basis for the disease; second, on the analysis of the symptoms, the most suggestive features being the frequent attacks of symmetrical and bilateral tonic contractures of the hands and feet, the involvement of the flexor muscles exclusively, the presence of Chvostek's and Troussseau's signs, the latter characterized by slow contractions accompanied and preceded by cramp-like pains, the additional demonstration of the mechanical excitability of the motor nerves by the stretching of the sciatic nerve and nerves of the brachial plexus; and, finally the fact that coincidently with the typical spasms all of the above tests disappeared. In this case improvement and apparent cure resulted during the administration of Beeb's nucleoprotein and after the subcutaneous implantations of human parathyroids, the fact cannot be lost sight of that the improvement may have been due to a compensatory hypertrophy of the upper right parathyreoid body which is supposed to have been left. Although it seems probable, on the basis of this case and the investigations of others, that by appropriate organotherapy the symptoms of tetany can be controlled at least temporarily during the administration, the question has not been definitely settled. Moreover the effect of transplantation is still problematic. The practical side of this subject has been furthered by recent researches only in so far as it has been demonstrated that not merely sufficient thyroid must be left in order to prevent the occurrence of myxedema, but also that a definite part of the thyroid must be retained in order to insure sufficient parathyreoid tissue and thus guard against tetany.—EUGENE H. POOL M. D., *Annals of Surgery*, Oct., 1907.

**Diagnosis of Arterial Obstruction in Gangrene of the Foot.**—The question where to amputate in gangrene of the foot is very difficult to answer. Some surgeons, as a matter of principle, always amputate above the knee, but others had good results by amputating closer to the gangrenous parts. Even amputations after Pirogoff, Chopart and Lisfranc for gangrene of toes have been successful. To decide this important ques-

tion it would be of greatest value to know in each case how far down on the leg the arteries are obstructed. As a diagnostic sign of the extent of such arterial obstruction MOSHKOVITZ recommends the active hyperemia that occurs right after discontinuing the anemia produced by an Esmarch Bandage. If healthy arteries are present, the whole extremity, first pale from the constriction, will show pronounced hyperemia in one or two seconds after loosening the tourniquet. In arterial obstruction or even partial obliteration, this hyperemia will occur much slower, in fact will extend only as far down on the leg as the circulation is good. The limit of this hyperemia is identical with the limit of circulation and is therefore a very valuable sign in determining the right place for amputation. MOSHKOVITZ applies the elastic bandage for five minutes for this examination. In three amputations for gangrene, he could prove by dissecting out the artery, that the lower limit of said hyperemia after loosening the Esmarch bandage was really identical with the limit of arterial obliteration.—*Mitteilungen aus den Grenzgebieten der Medicin und Chirurgie* Vol. 12, p. 1-2.

**Post-Operative Thrombophlebitis.**—Among 1,756 laparotomies and plastic operations in the gynecologic service of the University hospital of Ann Arbor, there occurred 11 cases of post-operative thrombophlebitis. The symptoms usually appear from ten days to three weeks after the operation. In many instances the patient is ready to leave her bed, or is already up and around. Fever, or even a chill, may usher in an attack. There are evidences of other gastro-intestinal disturbances. Feeling of weight and stiffness in the affected limb, which soon becomes the seat of a dull throbbing pain. Tenderness can be elicited along the course of the vein which is usually marked by a red line. The superficial veins may also present the same signs showing an extension of the disease. The inguinal glands may be enlarged and tender. The limb usually swells from below upwards, and may attain great size. The left leg is more often attacked than the right, although both may be the seat of the disease. Wherever emboli find lodgment metastatic abscesses also occur with their attending symptoms. The lungs, liver, kidneys, spleen, and even the brain may be so affected. Prognosis must be guarded, as the chance of pulmonary emboli is ever present. Patients must not be allowed to get up too soon and the remote effects must be carefully explained.—W. H. MORLEY, *Surgery, Gynecology and Obstetrics*, Sept., 1907.

## GYNECOLOGY AND OBSTETRICS.

Conducted by

B. R. SCHENCK, M. D.

**A Simple Method of Removing Stones from the Lower Ureter** is described by Bartlett, who has recently operated upon four cases by the method. It is only within recent years that the prevalence of ureteral stones has been appreciated, and it is therefore important to record operative procedures, especially the more simple ones. The diagnosis is usually made by the X rays.

Bartlett's method is to make a short incision parallel to the external border of the rectus from the semilunar fold of Douglas to the pubis. The incision goes down to, but does not open the peritoneum, the latter being pushed toward the median line. The operator's hand keeps close to the peritoneum, which will drag the ureter into the wound.

With the ureter between the thumb and finger it is perfectly easy to follow the tube throughout its pelvic portion and thus locate the stone. The stone, when found, is tightly held between the thumb and finger and a small nick made in the ureteral wall over the stone, with a knife. The stone is then squeezed out. The first time this is done the operator will be astonished at the ease with which the stone finds its way out of its resting place into the grasp of the fingers, it not being necessary to introduce the other hand or any grasping instrument into the wound.

No stitches are taken in the ureter; in fact, the wound is not seen. A fine cigarette drain is carried down to the vicinity of the wound, and the abdomen closed except at the lower end. The drain is removed on the fifth or sixth day.

This method makes possible three most desirable objects, the use of a small incision, a minimum injury to the ureter and a short, simple operation.—*Surg. Gyn. and Ob.*, Sept., 1907.

**Internal Diseases as Indications for the Interruption of Pregnancy.**—WARFIELD lays down the following principles as regards tuberculosis:

1. Tuberculosis of the larynx is a very grave complication of pregnancy, and is a justifiable indication for its interruption. To be of value it must be done in the first two months of pregnancy.

2. In advanced cases of tuberculosis of the lungs in pregnant women abortion is not justifiable. The exhaustion following it differs very little from that of normal puerperium. The child in such a case should be our first care.

3. In early tuberculosis of the lungs, if the process is advancing and the woman losing weight and if she can be put under the most favorable surroundings, there might be a justifiable indication for its interruption.

4. In early tuberculosis with the process apparently stationary, the patient should be simply kept under observation. There seems to be only one rule, if abortion is performed it must, in all cases, be done as early in the pregnancy as possible.—*Interstate Med. Jour.*

**The Treatment of Dysmenorrhea Through Mammeae.**—POLANO bases a new treatment for dysmenorrhea upon the theory that there is an antagonistic physiologic action between the mammary glands and the ovaries. When the ovaries are active the mammary glands are resting; when the glands are functioning the ovaries are quiescent, as in pregnancy and lactation. POLANO believes that the intensity of menstruation can be regulated by depressing the ovarian activity, which, in turn is accomplished by increasing the activity of the antagonistic mammary glands.

A few days before the expected treatment Bier's suction glasses are applied for half hour daily periods to both breasts. The treatments are continued until the end of the period. The suction produces hyperemia which persists for some hours. This hypermia of the mammae is supposed to depress ovarian action and thus assist in alleviating the dysmenorrhea.

POLANO has treated a number of patients by this method and has been uniformly successful, so that he is enthusiastic as to its merits.—*Münch. med. Woch.*, September 3, 1907.

**Ovarian Pregnancy.**—For many years there has been a dispute as to whether ovarian pregnancy ever occurs. SPIEGELBERG laid down certain criteria by which a case must be judged. They are (1) the tube on the affected side must be intact; (2) the fetal sac must occupy the position of the ovary; (3) the sac must be connected to the uterus by the ovarian ligament; (4) definite ovarian tissue must be found in the sac. WILLIAMS believes that but 13 cases thus far reported are positive. WEBSTER exhibited two specimens before the Chicago Gynecological Society in April, both of which came from one small town in Wisconsin.—*Surg. Gyn., and Ob.*, October, 1907.

**PHARMACOLOGY AND THERAPEUTICS**

Conducted by

H. A. FREUND, M. D.

**The Uses of Sulphate of Magnesium as a Local Application.**—The local effect of magnesium salts has lately received much attention in England. TUCKER reports his experiences with the sulphate in relieving pain and reducing inflammation when applied locally. He employs a saturated solution in water with which from 15 to 20 thicknesses of ordinary gauze are saturated. This is applied every half hour by pouring more of the solution over the application as it dries, not removing it until the end of 24 hours. The parts are then washed with water, and the dressing reapplied if necessary. The surface is found blanched and insensitive. There are no ill effects. TUCKER reports remarkable success in cases of orchitis of all kinds, acute rheumatism, erysipelas, neuritis and simple contusions. He does not explain its action, but insists that it serves the purpose of a local analgesic without baneful effects in a very satisfactory manner.—*Therapeutic Gazette, London*, April, 1907.

**The Therapeutic Value of Apomorphin Hydrochloridum.**—FISK, in an exhaustive study on apomorphin hydrochloride, sums up the value of this drug in an excellent and complete manner. Its effects when administered by mouth and by hypodermic vary widely.

Hypodermically, in doses from 1-20 to 1-6 of a grain, it acts as a quick and certain centric emetic. It is also recommended where hypnotics and antispasmodics are indicated, in a smaller dose, preferably about 1-40 of a grain. When given to children or debilitated subjects, an appropriate dose of strychnin should be simultaneously administered.

By mouth its centric effects are too uncertain to make it of value, either as an emetic or a hypnotic. Here its field is limited to its expectorant action. The average adult dose is then 1-8 of a grain. It should be given in a simple syrup with a few drops of hydrochloric acid to insure its solution.

Apomorphin does not increase the effect of morphine, codeine or heroin when given by mouth, especially if the pure crystalline product is used. Hence it may be used in conjunction with the other narcotics given for their depressant effect.

The crystalline apomorphin hydrochloride should always be specified when prescribing it as an expectorant. The danger is of getting a substance adulterated with morphine. The slight greenish discoloration occasionally met with in tablets or solutions does not necessarily contraindicate its use, if it has been prepared originally from the pure product by a reputable drug firm.—*Medical Record* Sept. 28, 1907.

**Intratracheal Injections in the Treatment of Chronic Diseases of the Lungs.**—An excellent review of the indications for and possibilities of intratracheal injections appears in the editorial columns of the *Medical Record*.

For those who are suffering from tuberculosis and whose financial condition precludes the generous treatment that we generally prescribe for such patients, symptomatic treatment aimed at the alleviation of the severer lesions of this disease must always be employed. Such treatment has been aimed directly at the seat of the disease and how much it has really helped this class of sufferers cannot be definitely estimated. There can be no doubt, however, of the relief it has given symptoms of cough, dyspnea, fetid expectoration and those conditions due to local conditions rather than effects of general intoxication of the organism.

GALEBSKY applied the treatment to 17 patients; 14 were tuberculous, two had putrid bronchitis; one simple bronchitis, and one bronchiectasis. Cocaine was used at first on the larynx and later dispensed with.

The most gratifying effect of this treatment was a diminution of the cough, which up to this time had been interfering with the rest and general comfort of the patients. The amount of sputum was also diminished; it became thinner and more readily expectorated. The nauseous odor accompanying the putrid bronchitis and bronchiectasis soon disappeared and the patients noted a general improvement.

This form of treatment has not received the widespread attention that it deserves and its employment it is felt would at least relieve many unpleasant symptoms.—*Medical Record*, Sept. 28, 1907.

## NEUROLOGY.

Conducted by

C. W. HITCHCOCK, M. D.

**Loss of Comprehension of Proper Names.**—FRY encountered an interesting case of a man of 40, who, after an evening of bibulous indulgence, was found next morning in a dazed state with evidence of trauma above the ear in which region a large area was swollen and tender. He cleared up rather rapidly but could recall only to a limited extent the events of the evening, and though he talked very clearly and intelligently of affairs in general, it was soon noticed that he ingeniously avoided the use of proper names and it soon became evident that he could not recall, use intelligently, or comprehend proper names. He would write them readily at dictation, but seemed to have no import of their meaning from so doing. He has since improved, but says his greatest trouble, as a result of his injury, seems to be a shortened vocabulary. In this connection, attention is called to the fact that it is not well to use the words memory and recollection in the same sense, the former meaning the storing up of sensations, the latter the ability to bring them into consciousness—the function which seems to have been temporarily suspended here.—*Journal for Nervous and Mental Diseases*, October, 1907.

**The Pathology of Epidemic Cerebro Spinal Meningitis.**—McDONALD presents the results of his studies of an epidemic in Edinburgh during which he has been able to make some 30 autopsies. He reviews the work to this time on the etiology and the discussion pro and con as to the responsibility of the meningococcus as the offending factor, and submits a summary of post mortem appearances in his autopsies, gross and histological, of which those of brain and cord seem the most important.

The dura mater showed no striking change. The surface of the brain in all cases was markedly hyperaemic with an exudate in the meshes of the pia-arachnoid, which was most marked at the base posteriorly. The brain, on section, was found edematous with, sometimes, purulent exudate. The nerve-roots at base of brain in the acute cases were surrounded by purulent lymph.

The cord, in practically all cases, has shown an acute leptomeningitis and in the great majority of cases a copious exudate of lymph has been seen, sometimes uniformly covering the cord, sometimes in patches.

The histological examination of the brain has shown often a preponderance of large mono-nuclear cells. Typical meningococci were found, both intracellular and free, in all but one of the

acute cases. Appearance of cord tissues closely corresponds to that of the brain.

Of the meningococcus the author says that "as seen in the cerebro-spinal fluid, it is an organism with such definite morphological characters that it may be identified in that situation with a fair degree of certainty by examination of films alone." "It occurs as a round or slightly oval coccus, sometimes single, usually seen in pairs as a diplococcus, the opposed surfaces of the cocci being flattened." He has not seen the chain forms. It is most usually seen within the polymorpho-nuclear leucocytes of the exudate but free forms are seen,—the intracellular position, he thinks, being less constant when the organism is specially virulent. Their number varies much and prolonged search is sometimes necessary, even in acute cases. It likewise shows great variety in size.

He concludes as a result of his studies, which are only partially abstracted here, that the recent epidemic in Edinburgh has been definitely due to the meningococcus—that in the course of such a meningococcal epidemic pneumococcal cases may occur which can only be recognized by bacteriological examination—that the organism grows but feebly apart from the body, even in the most favorable artificial media—that the direct transmission of the disease from patient to patient is rare; that posterior basal meningitis is pathologically identical with acute cerebro-spinal meningitis, differences being due to a varying virulence on the part of the organism.

Further conclusions are to the effect that, though the disease is only exceptionally infectious from patient to patient, when an epidemic is prevalent there is quite possibly a widespread distribution of the organism effected through sight coryzas and that these find most ready lodgment in those of least resistance, and so most susceptible, viz., infants and young children.

The author believes that in ordinary cases the organism having found lodgment in the upper respiratory passages, reaches the central nervous system through lymphatic channels, and that symptoms of the disease are mainly produced locally in the central nervous system—grave histological changes often taking place in these tissues. The disease can be reproduced in monkeys by intra-spinal injection of the organism with its products—but as all the indications are that the essential toxin belongs to the endo-cellular variety, serum therapy is not yet a practical possibility.—STUART McDONALD, *Review of Neurology and Psychiatry*, July and August.

## GENITO-URINARY SURGERY.

Conducted by

W. A. SPITZLEY, M. D.

**Hematuria.**—Hematuria signifies "bloody urine" and is a term applied to the symptom of a pathological condition and should not be considered as a disease. Bloody urine is of so frequent occurrence that it is exceedingly important to locate accurately its source and the causative factor, for it is indicative of a grave condition.

Before the days of the cystoscope and ureteral catheterism, there were many rules formulated to determine the source of bleeding, but with the advent of the cystoscope, most of these rules were found, at times, to be erroneous.

It has been taught that blood in acid urine comes from the kidney. If the urine contains worm-like casts, the bleeding has for its source the pelvis or ureter, and urine mixed with clots or red blood comes from the bladder, while bleeding due to prostatic trouble or the posterior urethra, follows micturition, whereas that from the anterior urethra precedes the flow of urine. It has also been taught that the location of the pain was corroborative evidence as to the source of the hematuria; pain radiating along the course of ureter into the groin or pelvis, is pelvic or ureteral in origin. Pain in the suprapubic region or high up in the perineum points to a lesion in the bladder or the deep urethra.

The physical examination of the patient is particularly important and with a thorough examination of the urine, we are usually able to locate the exact cause of the hematuria.

The ordinary rules for locating the source of bleeding sometimes fail. Dr. Bransford Lewis reports the case of a man who, after urethral dilatation found blood clots in his urine; later fresh blood appeared. Supposedly the source of the blood was the vesical neck which had been rather stretched by the bougie. Subsequent events, however, showed conclusively that the blood had been of renal origin.

Hematuria does not necessarily mean blood-colored urine, nor urine in which clots are evident, for there may be rather a grave process developing with only the microscopical elements of the blood present.

The most frequent and important causative factors are trauma, calculi, tuberculosis, malignant or benign tumors, drugs and parasites. These may cause the bleeding to arise in any portion of the uro-genital tract.

Bleeding from the anterior urethra is not usually associated with pain. It appears at the meatus or it may drip after urination. The first urine is bloody, the second may be clear and the last tinged with blood or clear. The use of the urethroscope will readily show the cause of the hemorrhage.

Hemorrhage from the posterior urethra is associated with pain both during and following micturition. The blood makes its appearance at the end of urination or may follow it. Papillomata occurring in the posterior urethra are a rather frequent cause of posterior bleeding.

When bleeding occurs without history of gonorrhcea, trauma, or growth, a tubercular condition of the posterior canal may be suspected. Chronic inflammation, leading to ulcers of the superficial layer, frequently results in severe hemorrhages; ulceration is the rule in tuberculosis, hence also is hematuria. New growths in the bladder, such as papillomata, are a common cause of bleeding. The characteristic sign of hematuria produced by new growths is that it is not increased or lessened with rest or motion and not usually affected by treatment.

In cases of nephritis, either acute or chronic, hematuria may occur. In the chronic types it lasts much longer and is more profuse than in the acute types. A microscopical examination of the urine, will, as a rule, clear up the diagnosis. Heitzmann, of New York, has proved beyond a doubt that epithelia from the different portions of the urinary tract can readily be differentiated.

Hematuria, whether from the upper or lower urinary tract, can absolutely be diagnosticated by a cystoscopic examination together with catheterization of the ureters. A hemorrhage which arises from any portion of the urinary tract anterior to the bladder may be diagnosticated by the use of the urethroscope.

Vesical, ureteral, or renal hematuria may be differentiated by the cystoscope and ureteral catheter. After a diagnosis as to the source and cause of the blood in the urine has been made from microscopical examination, the diagnosis is confirmed either by the urethroscope, cystoscope or the ureteral catheter.—L. W. BREMERMAN, A. M., M. D., Amer. Jour. Dermatology and Genito-Urinary Diseases.